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ABSTRACT

This curriculum guide for junior high mathematics teachers was developed to meet the diverse needs of students in School District 18 in the City of New York. Three different modules and sequences are presented. The first module contains instructional objectives which are necessary for life-related activities. The second module develops basic concepts and skills and the third offers additional mathematical enrichment. Teachers evaluate the mastery of the objectives by using teacher-generated tests. The time required to complete each module should be dependent on the needs of each class and the judgements of the individual teachers. (SA)

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DISTRICT 18

Harvey Garner, District Superintendent
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CURRICULUM MANUAL

LEVEL 07

1977-1978
(Revised)

Funded by Title IV C Grant

SE 026 953

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September 8, 1978

Dear Colleagues:

Completing a high caliber curriculum manual such as the ISS Mathematics Bulletin, is a herculean task that required the input and cooperation of all the teachers and supervisors in District 18.

Although the curriculum manual has been printed and distributed, the District Office continues to encourage the professional staff to offer constructive suggestions and feedback so that its content can be intelligently revised and refined; thus, we will have a document whose life blood results from the experiences and needs of the professional staff.

Because of your efforts in the ISS, the pupils of District 18 have continually shown improvement in their mathematics achievement. We are certain that this improvement in achievement and your efforts in the ISS will continue for the betterment of all involved in the education of our children.

Harvey Garner
Community Superintendent

Milton Anger
Director of Educational Development

HG:MA:ac

Preface

This manual was written as an outgrowth of an experiment funded by Title IVC as part of a total comprehensive instructional management system. To date, curriculum guides have been developed for the following subject areas - Mathematics Grades 1-9; Consumer Education, Intermediate Grades; Metric Education, Intermediate Grades.

All these instructional guides were developed in order to meet the instructional needs of our district's educational community. In order to insure their usefulness, these guides are continuously being updated to meet the rigorous requirements of continuous teacher feedback and periodic districtwide needs assessment instruments. As you will note, this guide and its companion guides offer detailed instructional objectives accompanied by student and/or teacher oriented activities.

Acknowledgements

The ISS Mathematics Program was developed as a cooperative venture of the Community School District 18 (Jack Zimmer, President, Harvey Garner, Community Superintendent), The State Education Department, (Gerald Freeborne, Assistant Commissioner for Long Range Planning, James Sullivan, CIMS Coordinator) and Metropolitan Educational Laboratory of the Board of Education of the City of New York, (Dr. Richard Vigilante, Administrator, Wayne W. Trigg, Director).

Over the last four years, the planning, designing, researching, writing, editing, implementing and revising of the curricula were made possible through the efforts of the following people:

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INTRODUCTION

In Community School District 18, there is a diverse student population having a large range of mathematical ability. Therefore, it was necessary to create three "types" of modules and "suggested sequences" in order to better meet the needs of all the students. The module types are labeled:

"M" - Minimal
"S" - Standard
"A" - Advanced.

"M" module description:

Generally, "M" modules contain Instructional Objectives which are necessary for life related activities. Upon mastery of these modules the student should be proficient in:

1. basic whole number skills and related problem solving;
2. simple geometric concepts and terminology;
3. fundamental concepts of fractions and decimals;
4. basic measurement in the English and Metric system.

"S" module description:

Generally, "S" modules contain Instructional Objectives which continue the development of basic concepts and skills. Upon mastery of these modules, the student should be proficient in:

1. basic skills and operations with fractions, decimals and percents;
2. geometric principles of perimeter and area;
3. the Metric System;
4. basic skills in reading and interpreting graphs;
5. set terminology.

"A" module description:

Generally, "A" modules contain Instructional Objectives which offer enrichment. Upon mastery of these modules, the student should be proficient in:

1. other number bases;
2. advanced concepts and skills involving fractions, decimals and percents;
3. advanced concepts and skills involving sets;
4. reading and interpreting complex multiple graphs and graph construction.

Mastery of certain objectives is not tested on a computer-scored ISS test. Such objectives are indicated with an asterisk and footnote. However, teachers are urged to evaluate student mastery of these objectives in an alternative way, e.g., by using a teacher-generated test.

Activities are listed in the order of objectives to which they relate, and the related objectives are indicated by number and description at the beginning of each activity. Activities generally consist of examples and problems which lead to mastery of the specific objectives.

MODULE SEQUENCES

A module sequence is given in the chart below for this level.

Although a sequence is recommended here, this sequence is a suggestion only. Professional judgement should be exercised when following this sequence because the needs of individual students may be met better by an alternative sequence. However, module interdependencies are strong in some cases, so that teachers should inform their RP in case they have a reason to depart from the recommended sequence. The RP then can recommend special steps that may need to be taken in using an alternative sequence. In addition, teachers should inform their RP in case they use an alternative sequence because teachers' views on module sequence are important for improving the curriculum next year.

Each module in the list is described by its number, title, type (minimal, standard, advanced), and average duration. Note that the duration is included only as a rough guideline to the teacher for planning purposes. The actual time required for each module will vary widely from class to class depending on the needs of the class and the teacher's judgement. Teachers should advise their RP if a given duration seems to be in error so that it can be corrected in the future.

MODULE SEQUENCE FOR LEVEL 07

Minimal	Standard	Advanced	Title	Suggested Duration in Days
7.01.01			BASE 10	8
	7.01.02		BASE 10 EXPONENTIAL FORM	4
		7.01.03	OTHER BASES	10
	7.02.01		SET TERMINOLOGY	6
		7.02.02	SET RELATIONSHIPS AND OPERATIONS	13
7.03.01			ADDITION AND SUBTRACTION OF WHOLE NUMBERS	8
7.04.01			MULTIPLICATION ALGORITHM	7
	7.04.02		FACTORS AND MULTIPLES	6
		7.04.03	PRIMES AND COMPOSITES	7
7.05.01			DIVISION OF WHOLE NUMBERS	7
7.05.02			VERBAL PROBLEMS INVOLVING WHOLE NUMBERS AND ONE OPERATION	5
	7.05.03		VERBAL PROBLEMS INVOLVING WHOLE NUMBERS AND TWO OPERATIONS	4
7.09.01			POINTS, LINES, RAYS AND ANGLES	5
7.09.02			POLYGONS AND SPACE FIGURES	8
7.09.03			CIRCLES	5
7.06.01			FRACTIONAL CONCEPTS	6
	7.06.02		FRACTIONAL RELATIONSHIPS	10
	7.06.03		ADDITION AND SUBTRACTION OF FRACTIONS	8

MODULE SEQUENCE FOR LEVEL 07

Minimal	Standard	Advanced	Title	Suggested Duration in Days
	7.06.04		MULTIPLCATION AND DIVISION OF FRACTIONS	7
	7.06.05		VERBAL PROBLEMS INVOLVING FRACTIONS	4
		7.06.06	ADVANCED FRACTIONAL COMPUTATIONS AND CONCEPTS	8
7.10.01			RULER MEASUREMENT AND CONVERSION	10
7.10.04			PERIMETER AND AREA	7
7.10.03			ANGLE MEASUREMENT	9
7.07.01			MONEY RELATIONSHIPS	8
7.07.02			MONEY COMPUTATIONS	6
7.07.03			VERBAL PROBLEMS INVOLVING MONEY	4
	7.07.06		DECIMAL RELATIONSHIPS	10
	7.07.07		ADDITION AND SUBTRACTION OF DECIMALS	5
	7.07.08		MULTIPLICATION AND DIVISION OF DECIMALS	10
	7.07.09		VERBAL PROBLEMS INVOLVING DECIMALS	4
7.07.04			SIMPLE PERCENT	6
	7.07.10		BASIC PERCENT	8
		7.07.12	FRACTIONAL AND DECIMAL PERCENT	11
7.07.05			VERBAL PROBLEMS INVOLVING PERCENT	5
	7.07.11		VERBAL PROBLEMS INVOLVING RATE, DISCOUNT AND COMMISSION	7

MODULE SEQUENCE FOR LEVEL 07

Minimal	Standard	Advanced	Title	Suggested Duration in Days
		7.09.04	SPACE GEOMETRY AND SPACE FIGURES	8
	7.10.05		COMPUTATION WITH ENGLISH MEASUREMENTS	9
7.10.02			METRIC UNITS	8
	7.10.06		METRIC CONVERSION AND COMPUTATION	10
	7.10.07		PERIMETER, CIRCUMFERENCE AND AREA BY FORMULA	11
7.12.01			READ AND INTERPRET SIMPLE GRAPHS	6
	7.12.02		READ AND INTERPRET MULTIPLE GRAPHS	5
		7.12.03	READ AND INTERPRET COMPLEX MULTIPLE GRAPHS	5
		7.12.04	CONSTRUCT GRAPHS	9

Topic Tab Key

01. Numbers and Numeration

02. Sets

03. Addition and Subtraction of Whole Numbers

04. Multiplication of Whole Numbers

05. Division of Whole Numbers

06. Fractions

07. Decimals

08. Integers

09. Geometry

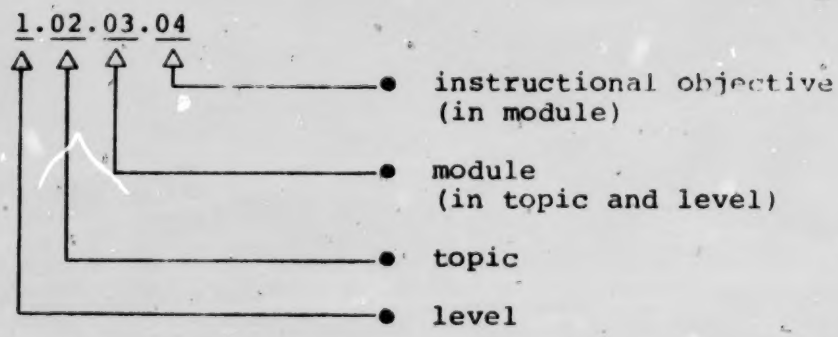
10. Measurement

11. Algebraic Concepts

12. Graphs, Probability, Statistics

13. Problem Solving

Module Coding Key



TOPIC 1

NUMBERS AND NUMERATION

7.01.01	Base 10	(minimal, 8 days)
7.01.02	Base 10 Exponential Form	(standard, 4 days)
7.01.03	Other Bases	(advanced, 10 days)

7.01.01

BASE 10

(minimal, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.01.01.01	identify the place value of an indicated digit in a given base 10 numeral;
7.01.01.02	identify the value of an indicated digit in a given base 10 numeral;
7.01.01.03	separate a number into its proper periods;
7.01.01.04	write the standard numeral given the word name for a base 10 numeral;
7.01.01.05	write the word name given a standard base 10 numeral;
7.01.01.06	write an expanded numeral given a standard base 10 numeral;
7.01.01.07	write the standard base 10 numeral given an expanded numeral.

7 · 01 · 01 · 01

7· 01· 01· 02

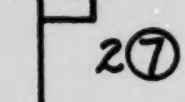
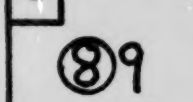
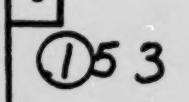
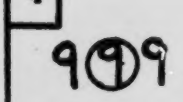
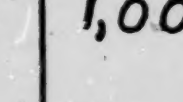
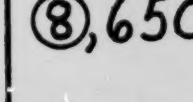
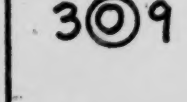
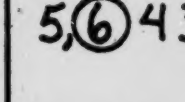
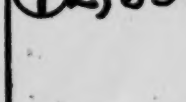
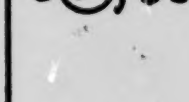
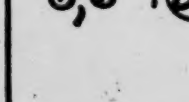
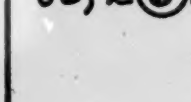
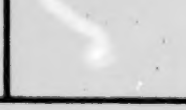
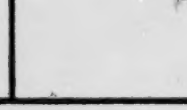
01

NAME _____ CLASS _____ DATE _____

IDENTIFY THE PLACE VALUE OF A DIGIT
IDENTIFY THE VALUE OF A DIGIT

Directions:

What is the place value and value of the circled digit?

1 	2 	3 	4 
5 	6 	7 	8 
9 	10 	11 	12 
13	14	15 	16 

Selected Answers:

7· 01· 01· 03

. . .

01

NAME _____ CLASS _____ DATE _____

SEPARATE A NUMBER INTO ITS PERIODS

Directions:

Write each with commas.

1 6254	2 90642	3 35218	4 820000
5 59362	6 40085	7 9955110	8 26543218
9 5000000	10 92643	11 452	12 9020
13 6523841	14 42000	15 96305	16 4444432

Selected Answers:

7 . 01 . 01 . 04

. . .

01

NAME CLASS DATE

WRITE A NUMERAL GIVEN ITS WORD NAME

Directions:

Translate into a numeral.

1	Five hundred ninety six is:
2	Six thousand two hundred six is:
3	Nine thousand fifty two is:
4	Twenty eight thousand six hundred thirty five is:
5	One hundred fifty thousand thirty seven is:
6	Six hundred thousand four hundred eighty two is:

Selected Answers:

7 . 01 . 01 . 05

. . .

01

NAME CLASS DATE

WRITE THE WORD NAME GIVEN A NUMERAL

Directions:

Write the word name of each numeral.

1	905 is:
2	6,954 is:
3	38,065 is:
4	92,007 is:
5	167,492 is:
6	550,083 is:

Selected Answers:

7 .01 .01 .06

01

NAME CLASS DATE

WRITE AN EXPANDED NUMERAL GIVEN A STANDARD NUMERAL

Directions:

Write in expanded form.

1	382 =
2	906 =
3	4,520 =
4	6,075 =
5	8,562 =
6	14,230 =

Selected Answers:

7 . 01 . 01 . 07

01

NAME _____ CLASS _____ DATE _____

WRITE A STANDARD NUMERAL GIVEN AN EXPANDED NUMERAL

Directions:

Write as a numeral.

1	2000 + 500 + 60 + 8 =
2	6000 + 80 + 2 =
3	50,000 + 800 + 20 + 6 =
4	90,000 + 3,000 + 600 + 40 =
5	10,000 + 8,000 + 40 + 6 =
6	600,000 + 50,000 + 4,000 + 300 =

Selected Answers:

7.01.02

BASE 10 EXPONENTIAL FORM

(Standard, 4 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.01.02.01	write the standard numeral given a number expressed as a power of 10;
7.01.02.02	write the standard base 10 numeral given a number expressed in exponential form;
7.01.02.03	write a standard base 10 numeral in exponential form;
7.01.02.04	recognize the expanded exponential form of a standard base 10 numeral and vice versa.

7. 01. 02. 01

7. 01. 02. 02

01

NAME _____ CLASS _____ DATE _____

WRITE A NUMERAL GIVEN A NUMBER EXPRESSED AS A POWER OF TEN
WRITE A NUMERAL GIVEN A NUMBER EXPRESSED IN EXPONENTIAL FORM

Directions:
Write as a standard numeral.

1 $10^2 = \square$	2 $10^3 = \square$	3 $10^1 = \square$	4 $10^6 = \square$
5 $10^0 = \square$	6 $10^4 = \square$	7 $10^5 = \square$	8 $5^2 = \square$
9 $2^3 = \square$	10 $7^2 = \square$	11 $3^2 = \square$	12 $6^0 = \square$
13 $3^3 = \square$	14 $2^4 = \square$	15 $4^2 = \square$	16 $15^2 = \square$

Selected Answers:

7. 01. 02. 03

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01

NAME _____ CLASS _____ DATE _____

WRITE A NUMERAL IN EXPONENTIAL FORM

Directions:

Determine the correct base or exponent.

1 $1{,}000 = 10^{\square}$	2 $100 = 10^{\square}$	3 $81 = 9^{\square}$	4 $8 = 2^{\square}$
5 $36 = \square^{2}$	6 $100{,}000 = \square^{5}$	7 $16 = \square^{2}$	8 $1{,}000 = \square^{3}$
9 $1 = 10^{\square}$	10 $49 = \square^{2}$	11 $27 = \square^{3}$	12 $16 = 2^{\square}$
13 $64 = \square^{2}$	14 $64 = 4^{\square}$	15 $81 = 3^{\square}$	16 $1{,}000{,}000 = \square^{6}$

Selected Answers:

7 . 01 . 02 . 04

01

NAME _____ CLASS _____ DATE _____

RECOGNIZE THE EXPANDED EXPONENTIAL FORM OF A NUMERAL

Directions:

Write each expanded numeral in standard form.

1	$(9 \times 10^2) + (2 \times 10^1) + (6 \times 10^0) =$
2	$(8 \times 10^3) + (0 \times 10^2) + (4 \times 10^1) + (2 \times 10^0) =$
3	$(6 \times 10^4) + (2 \times 10^3) + (8 \times 10^2) + (6 \times 10^1) + (8 \times 10^0) =$
4	$(2 \times 10^5) + (5 \times 10^4) + (6 \times 10^3) + (4 \times 10^2) + (0 \times 10^1) + (2 \times 10^0) =$
5	$(4 \times 10^4) + (5 \times 10^3) + (6 \times 10^2) + (0 \times 10^1) + (0 \times 10^0) =$
6	$(5 \times 10^6) + (2 \times 10^5) + (0 \times 10^4) + (0 \times 10^3) + (4 \times 10^2) + (5 \times 10^1) + (1 \times 10^0) =$

Selected Answers:

CONTINUED

7 . 01 . 02 . 04

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01

NAME CLASS DATE

RECOGNIZE THE EXPANDED EXPONENTIAL FORM OF A NUMERAL

Directions:

Write each numeral in expanded exponential form.

1	$496 =$
2	$3,486 =$
3	$6,035 =$
4	$45,698 =$
5	$150,200 =$
6	$2,625,483 =$

Selected Answers:

7.01.03

OTHER BASES

(Advanced, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.01.03.01	identify the place values of other bases up to five places (especially base 2 and base 5);
7.01.03.02	identify the digits and numerals of other bases (especially base 2 and base 5);
7.01.03.03	name the place value of an indicated digit given a base 5 or base 2 numeral;
7.01.03.04	name the value of an indicated digit given a base 5 or base 2 numeral;
7.01.03.05	write as an expanded numeral with or without exponents given a base 5 or base 2 numeral;
7.01.03.06	change to a standard base 10 numeral a given base 5 or base 2 numeral;
7.01.03.07	change to a base 5 or base 2 numeral a given base 10 numeral up to three places;
7.01.03.08	compute the sum of several base 5 or base 2 numerals.

NAME _____ CLASS _____ DATE _____

IDENTIFY PLACE VALUES OF OTHER BASES

Directions:

Complete each place value chart.

1 **Base Five**

	5^3	5^2		
625		25		

2 **Base Eight**

			8^1	
4096				

3 **Base Two**

					2^0
	32				

4 **Base Twelve**

12^4				
20,736	1,728			

Selected Answers:

7 .01 .03 .02

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01

NAME _____ CLASS _____ DATE _____

IDENTIFY DIGITS AND NUMERALS OF OTHER BESES

Directions:
Which numerals are incorrectly written and why?

1 5413_{five}	2 201_{two}	3 320_{five}	4 10010_{two}
5 184_{eight}	6 612_{twelve}	7 TOE_{twelve}	8 2023_{two}
9 9612_{five}	10 $3T4_{eleven}$	11 987_{eight}	12 11111_{two}
13 333_{three}	14 400_{five}	15 $6T3E_{ten}$	16 10000_{two}

Selected Answers:

7 .01 .03 .03

7 .01 .03 .04

01

NAME _____ CLASS _____ DATE _____

NAME THE PLACE VALUE OF A DIGIT IN A BASE 5 OR BASE 2 NUMERAL
NAME THE VALUE OF A DIGIT IN A BASE 2 NUMERAL

Directions:

Write the place value and value of the circled digit.

1 $4\textcircled{2}_{five}$	2 $2\textcircled{3}2_{five}$	3 $11\textcircled{1}_{two}$	4 $1\textcircled{1}01_{two}$
5 $\textcircled{1}011_{two}$	6 $10\textcircled{0}11_{two}$	7 $1\textcircled{4}2_{five}$	8 $2\textcircled{3}04_{five}$
9 $\textcircled{1}032_{five}$	10 $11\textcircled{0}111_{two}$	11 $1\textcircled{1}0010_{two}$	12 $2\textcircled{4}01_{five}$
13 $\textcircled{2}414_{five}$	14 $\textcircled{1}0031_{five}$	15 $100\textcircled{0}_{two}$	16 $1\textcircled{1}0110_{two}$

Selected Answers:

7.01 .03 .05

01

NAME CLASS DATE

WRITE BASE 5 OR BASE 2 NUMERALS IN EXPANDED FORMS

Directions:

Write in expanded form with and without exponents.

1	43_{five} =
2	124_{five} =
3	2014_{five} =
4	101_{two} =
5	1110_{two} =
6	101010_{two} =

Selected Answers:

7 . 01 . 03 . 06

01

NAME _____ CLASS _____ DATE _____

CHANGE BASE 5 OR BASE 2 NUMERALS TO BASE 10 NUMERALS

Directions:

Change to an equivalent Base 10 numeral.

1 24_{five} =	7 10111_{two} =
2 123_{five} =	8 1000_{two} =
3 10_{two} =	9 10244_{five} =
4 111_{two} =	10 3333_{five} =
5 142_{five} =	11 110110_{two} =
6 2031_{five} =	12 1001001_{two} =

Selected Answers:

7 . 01 . 03 . 07

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01

NAME _____ CLASS _____ DATE _____

CHANGE BASE 10 NUMERALS TO BASE 5 OR BASE 2 NUMERALS

Directions:

Change each to a Base 5 or Base 2 numeral as indicated.

1 $9 =$ _____ five	7 $6 =$ _____ two
2 $22 =$ _____ five	8 $2 =$ _____ two
3 $102 =$ _____ five	9 $11 =$ _____ two
4 $194 =$ _____ five	10 $36 =$ _____ two
5 $395 =$ _____ five	11 $29 =$ _____ two
6 $970 =$ _____ five	12 $85 =$ _____ two

Selected Answers:

7. 01. 03. 08

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01

NAME CLASS DATE

ADD BASE FIVE OR BASE TWO NUMERALS

Directions:
Find the sum in the given base.

1 $21_{five} + 23_{five}$	2 $2_{five} + 22_{five}$	3 $100_{two} + 10_{two}$	4 $1010_{two} + 101_{two}$
5 $13_{five} + 22_{five}$	6 $24_{five} + 13_{five}$	7 $101_{two} + 1_{two}$	8 $110_{two} + 101_{two}$
9 $24_{five} + 32_{five}$	10 $142_{five} + 124_{five}$	11 $1011_{two} + 110_{two}$	12 $11011_{two} + 10101_{two}$
13 $21_{five} + 32_{five} + 14_{five}$	14 $203_{five} + 42_{five} + 134_{five} + 234_{five}$	15 $1011_{two} + 111_{two} + 1110_{two}$	16 $1111_{two} + 10101_{two} + 11011_{two}$

Selected Answers:

02

TOPIC 2

SETS

7.02.01	Set Terminology	(standard, 6 days)
7.02.02	Set Relationships and Operations	(advanced, 13 days)

7.02.01

SET TERMINOLOGY

(standard, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.02.01.01	identify a set as a collection of items;
7.02.01.02	know set notation;
7.02.01.03	rewrite a set using the listing method given a set written in the descriptive method;
7.02.01.04	rewrite a set using the descriptive method given a set written in the listing method;
7.02.01.05	determine the cardinal number of a given set with a specific number of elements;
7.02.01.06	identify as a finite set a given set with a specific number of elements;
7.02.01.07	identify as an infinite set a given set with an unlimited number of elements;
7.02.01.08	identify as an empty set or null set a given set with no elements.

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02

NAME CLASS DATE

IDENTIFY BRACES AND A CAPITAL LETTER AS SET NOTATION

Directions:

Write in set notation.

1	Set A containing elements a, b, c, d.
2	Set B containing elements 1, 2, 3, 4, 5, 6.
3	Set C containing elements ○, ⬡, □, △.
4	Set W containing elements !, ?.
5	Set Y containing elements ✡.
6	Set X containing NO elements.

Selected Answers:

7.02.01.03

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02

NAME CLASS DATE

DESCRIPTIVE METHOD TO THE LISTING METHOD

Directions:

Write as a set.

1	The set of even numbers from 6 to 20.
2	The set of letters of the alphabet which come before H.
3	The set of even numbers.
4	The set of odd numbers less than 15.
5	The set of odd numbers greater than 14.
6	The set of people in your immediate family.

Selected Answers:

7 . 02 . 01 . 04

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NAME CLASS DATE

02

LISTING METHOD TO THE DESCRIPTIVE METHOD

Directions:

Describe each set.

1	{U, V, W, X, Y, Z}
2	{0, 1, 2, 3, 4, 5}
3	{7, 9, 11, 13, 15, 17, 19}
4	{1, 3, 5 ...}
5	{12, 14, 16 ...}
6	{L, M, N, O}

Selected Answers:

7 .02 .01 .05

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02

NAME CLASS DATE

DETERMINE THE CARDINAL NUMBER

Directions:

What is the cardinal number of each set?

1 $\{1,2,3,4\}$	7 $\{10,12,\ldots,20\}$
2 $\{2,4,6,8\}$	8 The set of letter from A to Z.
3 $\{a,b,c,d,e,f\}$	9 The set of whole numbers from 12 to 20.
4 $\{1,3,5,7,9,11\}$	10 The set of whole numbers between 12 and 20.
5 $\{\ \}$	11 The set of even numbers less than 8.
6 $\{\bigcirc,\square,\bigcirc,\triangle\}$	12 The set of odd numbers

Selected Answers:

7 .02 .01 .05

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NAME CLASS DATE

02

DETERMINE THE CARDINAL NUMBER

Directions:

What is the cardinal number of each set?

1 {1,2,3,4}	7 {10,12,...,20}
2 {2,4,6,8}	8 The set of letter from A to Z.
3 {a,b,c,d,e,f}	9 The set of whole numbers from 12 to 20.
4 {1,3,5,7,9,11}	10 The set of whole numbers between 12 and 20.
5 { }	11 The set of even numbers less than 8.
6 {⬡, □, ○, △}	12 The set of odd numbers

Selected Answers:

NAME _____ CLASS _____ DATE _____

02

IDENTIFY FINITE SETS
IDENTIFY INFINITE SETS
IDENTIFY EMPTY SETS

Directions:

For (1-9) Which sets are finite, infinite, or empty?
(10-12) Write two examples of each kind of set.

1 The set of people in the world.	7 {a, b, c, ... z}
2 The set of three wheel bicycles.	8 The set of stars in earths night sky.
3 {2, 4, 6, ...}	9 The set of odd numbers greater than 13.
4 $\emptyset$	10 FINITE
5 {11, 22, 49, 88}	11 INFINITE
6 The set of whole numbers less than 5 and greater than 4.	12 EMPTY

Selected Answers:

7.02.02

SET RELATIONSHIPS AND OPERATIONS

(advanced, 13 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.02.02.01	identify two sets as being in one-to-one correspondence;
7.02.02.02	identify two sets as being equivalent sets;
7.02.02.03	identify two sets as being equal sets;
7.02.02.04	identify two sets as being disjoint sets;
7.02.02.05	determine subsets of a given set;
7.02.02.06	determine the number of subsets of a finite set of up to eight elements using the expression 2^N , where N is the number of elements in the set;
7.02.02.07	represent two disjoint sets with a Venn diagram;
7.02.02.08	identify two circles as disjoint sets in a Venn diagram displaying two non-intersecting circles;
7.02.02.09	represent a set and a subset with a Venn diagram;

continued ...

02

7.02.02.10	identify two sets as a set and a subset given a Venn diagram displaying two concentric circles;
7.02.02.11	determine the union of two given sets;
7.02.02.12	determine the intersection of two given sets;
*7.02.02.13	construct a Venn diagram showing the union of two given sets;
7.02.02.14	identify the union of two given sets in a Venn diagram;
*7.02.02.15	construct a Venn diagram showing the intersection of two given sets;
7.02.02.16	identify the intersection of two given sets in a Venn diagram.

*This I.O. is not tested on an I.S.S. Test.

TOPIC 3

ADDITION AND SUBTRACTION OF WHOLE NUMBERS

03

7.03.01 Addition and Subtraction of Whole Numbers (minimal, 8 days)

7.03.01

ADDITION AND SUBTRACTION OF WHOLE NUMBERS

(minimal, 8 days)

03

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

*7.03.01.01	rewrite addition and subtraction examples in vertical form for a given example in horizontal form;
7.03.01.02	compute the sum of several whole numbers;
7.03.01.03	compute the difference of two whole numbers without exchange;
7.03.01.04	compute the difference of two whole numbers with exchange;
7.03.01.05	compute the difference of two whole numbers with exchange given a minuend containing zeros;
*7.03.01.06	check a subtraction example by adding the difference to the subtrahend.

*This I.O. is not tested on an I.S.S. Test.

7 .03 .01 .02

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NAME CLASS DATE

03

ADD WHOLE NUMBERS

Directions:

Add.

1) 857 + 105	2) 59 82 + 384 29	3) 5362 1042 + 826 3498	4) 356 1047 + 8256 12492	5) 126 805 + 1486 2524 1037
6) 482 + 140	7) 86 92 + 156 42	8) 4286 1563 + 407 8246	9) 109 3586 + 1247 8362	10) 82 157 + 3046. 1592 287
11) 187 + 829	12) 36 82 + 153 45	13) 8536 1256 + 246 583	14) 23,142 8,256 + 14,028 19,367	15) 48,127 6,325 + 825 42
16) 8624 1590 + 826 83	17) 25+86+125+806=		18) 126+82+9+526=	
	19) 15,625+402+92=		20) 18,483+4,862+82+156=	
21) 15,129 82,143 + 6,156 82 7,196	22) 486+106+36+4069=		23) 92+156+1,489+82,106=	
	24) 4,862+92,193+84,137=		25) 156+92+172+9324=	

Selected Answers:

7.03.01.03

7.03.01.04

NAME _____ CLASS _____ DATE _____

03

SUBTRACT WHOLE NUMBERS WITHOUT EXCHANGE
SUBTRACT WHOLE NUMBERS WITH EXCHANGE

Directions:

Subtract.

1) 486 − 102	2) 1264 − 130	3) 1428 − 243	4) 22,486 − 1,829	5) 42,521 − 12,086
6) 523 − 102	7) 12,582 − 1,021	8) 5,862 − 1,024	9) 36,124 − 18,056	10) 15,243 − 1,829
11) 1206 − 104	12) 13,156 − 8,009	13) 2492 − 1098	14) 24,824 − 12,946	15) 36,143 − 19,258
16) 426 − 103 =	17) 159 − 138 =	18) 2468 − 1809 =		
19) 22,195 − 15,248 =	20) 1,486 − 628 =	21) 14,823 − 6,244 =		
22) 24,182 − 12,191 =	23) 15,425 − 10,826 =	24) 48,734 − 199 =		

Selected Answers:

7 . 03 . 01 . 05

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NAME CLASS DATE

SUBTRACT WHOLE NUMBERS WHEN THE LARGER WHOLE NUMBER HAS ZEROS

03

Directions:

Subtract.

1) 360 − 124	2) 2500 − 1242	3) 406 − 258	4) 1203 − 121	5) 15,002 − 6,158
6) 4250 − 1428	7) 26,000 − 1,425	8) 1207 − 529	9) 12,003 − 11,221	10) 10,480 − 9,192
11) 56,400 − 18,204	12) 15,000 − 2,153	13) 4203 − 181	14) 56,002 − 24,248	15) 10,206 − 2,183
16) 580 − 239 =	17) 1200 − 486 =	18) 14,002 − 24 =		
19) 402 − 86 =	20) 1503 − 829 =	21) 15,020 − 6,219 =		
22) 10,046 − 8,422 =	23) 10,000 − 156 =	24) 40,000 − 9 =		

Selected Answers:

TOPIC 4

MULTIPLICATION OF WHOLE NUMBERS

7.04.01	Multiplication Algorithm	(minimal, 7 days)
7.04.02	Factors and Multiples	(standard, 6 days)
7.04.03	Primes and Composites	(advanced, 7 days)

04

7.04.01

MULTIPLICATION ALGORITHM

(minimal, 7 days)

04

INSTRUCTIONAL OBJECTIVES

	The student will be able to ...
*7.04.01.01	rewrite a multiplication example in verticle form for a given example in horizontal form;
7.04.01.02	compute the product of a one digit number by a one digit number;
7.04.01.03	compute the product of a two digit number by a one digit number;
7.04.01.04	compute the product of a two digit number by a two digit number;
7.04.01.05	compute the product of a three digit number by a two dight number;
7.04.01.06	compute the product of a three digit number by a three digit number;
7.04.01.07	compute the product of a number by ten, one hundred or one thousand.

*This I.O. is not tested on an I.S.S. Test.

7. 04. 01. 02

7. 04. 01. 03

NAME _____ CLASS _____ DATE _____

04

MULTIPLICATION OF A ONE DIGIT NUMBER BY A ONE DIGIT NUMBER
MULTIPLICATION OF A TWO DIGIT NUMBER BY A ONE DIGIT NUMBER

Directions:

Multiply.

1 $8 \times 4 =$	2 $\times 6$	3 $5 \times 7 =$	4 $\times 6$
5 12×7	6 24×8	7 $36 \times 5 =$	8 $20 \times 7 =$
9 49×3	10 52×7	11 $39 \times 2 =$	12 $48 \times 8 =$
13 89×6	14 59×9	15 $48 \times 8 =$	16 $85 \times 6 =$

Selected Answers:

7. 04. 01. 04

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NAME _____ CLASS _____ DATE _____

04

MULTIPLYING A TWO DIGIT NUMBER BY A TWO DIGIT NUMBER

Directions:

Multiply.

1 $\begin{array}{r} 42 \\ \times 20 \\ \hline \end{array}$	2 $\begin{array}{r} 56 \\ \times 30 \\ \hline \end{array}$	3 $\begin{array}{r} 84 \\ \times 26 \\ \hline \end{array}$	4 $\begin{array}{r} 15 \\ \times 82 \\ \hline \end{array}$
5 $36 \times 25 =$	6 $40 \times 33 =$	7 $86 \times 52 =$	8 $90 \times 80 =$
9 $\begin{array}{r} 59 \\ \times 25 \\ \hline \end{array}$	10 $\begin{array}{r} 89 \\ \times 98 \\ \hline \end{array}$	11 $\begin{array}{r} 41 \\ \times 59 \\ \hline \end{array}$	12 $\begin{array}{r} 82 \\ \times 43 \\ \hline \end{array}$
13 $\begin{array}{r} 29 \\ \times 93 \\ \hline \end{array}$	14 $\begin{array}{r} 46 \\ \times 37 \\ \hline \end{array}$	15 $52 \times 48 =$	16 $23 \times 81 =$

Selected Answers:

7 . 04 . 01 . 05

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NAME CLASS DATE

04

MULTIPLY A THREE DIGIT NUMBER BY A TWO DIGIT NUMBER

Directions:

Multiply.

1 $\begin{array}{r} 324 \\ \times\ 46 \\ \hline \end{array}$	2 $\begin{array}{r} 108 \\ \times\ 27 \\ \hline \end{array}$	3 $\begin{array}{r} 590 \\ \times\ 43 \\ \hline \end{array}$
4 $426 \times 50 =$	5 $826 \times 49 =$	6 $137 \times 53 =$
7 $\begin{array}{r} 982 \\ \times\ 53 \\ \hline \end{array}$	8 $\begin{array}{r} 462 \\ \times\ 58 \\ \hline \end{array}$	9 $\begin{array}{r} 836 \\ \times\ 41 \\ \hline \end{array}$

Selected Answers:

7.04.01.06

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NAME CLASS DATE

04

MULTIPLY A THREE DIGIT NUMBER BY A THREE DIGIT NUMBER

Directions:

Multiply.

1 $\begin{array}{r} 423 \\ \times\ 124 \\ \hline \end{array}$	2 $\begin{array}{r} 323 \\ \times\ 241 \\ \hline \end{array}$	3 $\begin{array}{r} 823 \\ \times\ 106 \\ \hline \end{array}$
4 $836 \times 112 =$	5 $106 \times 429 =$	6 $302 \times 460 =$
7 $\begin{array}{r} 589 \\ \times\ 187 \\ \hline \end{array}$	8 $\begin{array}{r} 826 \\ \times\ 992 \\ \hline \end{array}$	9 $\begin{array}{r} 587 \\ \times\ 785 \\ \hline \end{array}$

Selected Answers:

7. 04. 01. 07

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NAME _____ CLASS _____ DATE _____

04

MULTIPLY A NUMBER BY TEN, ONE HUNDRED, AND ONE THOUSAND

Directions:

Multiply.

1 $\begin{array}{r} 42 \\ \times\ 10 \\ \hline \end{array}$	2 $\begin{array}{r} 563 \\ \times\ 10 \\ \hline \end{array}$	3 $329 \times 10 =$	4 $426 \times 100 =$
5 $\begin{array}{r} 59 \\ \times\ 10 \\ \hline \end{array}$	6 $48 \times 1000 =$	7 $29 \times 1000 =$	8 $125 \times 100 =$
9 $\begin{array}{r} 486 \\ \times\ 100 \\ \hline \end{array}$	10 $2483 \times 100 =$	11 $5090 \times 10 =$	12 $\begin{array}{r} 2,364 \\ \times\ 100 \\ \hline \end{array}$
13 $\begin{array}{r} 506 \\ \times\ 100 \\ \hline \end{array}$	14 $42 \times 1000 =$	15 $162 \times 1000 =$	16 $\begin{array}{r} 29,152 \\ \times\ 1,000 \\ \hline \end{array}$

Selected Answers:

7.04.02

FACTORS AND MULTIPLES

(standard, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.04.02.01	determine the cofactors of a given number;
7.04.02.02	list the set of all factors of a given number;
7.04.02.03	determine the greatest common factor of two whole numbers;
7.04.02.04	list the set of all multiples of a given number;
7.04.02.05	determine the least common multiple of two whole numbers.

7 . 04 . 02 . 01

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NAME _____ CLASS _____ DATE _____

04

FIND THE COFACTORS OF A NUMBER

Directions:

Complete the chart.

	I			II		
	product	factor	cofactor	product	factor	cofactor
a	____	8	7	40	5	____
b	45	9	____	____	12	6
c	12	1	____	15	3	____
d	____	18	6	____	12	4
e	9	____	____	18	____	____
f	9	____	____	18	____	____
g	30	____	____	18	____	____
h	30	____	____	60	15	____
i	30	____	____	49	7	____
J	30	____	____	17	1	____
K	19	____	____	22	11	____
L	25	____	____	108	12	____
M	25	____	____	250	5	____

Selected Answers:

7 . 04 . 02 . 02

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NAME _____ CLASS _____ DATE _____

04

LIST THE SET OF FACTORS OF A NUMBER

Directions:

(1-12) List the set of factors.
(13-16) For what number is each set the set of all the factors?

1 12 { }	2 5 { }	3 20 { }	4 6 { }
5 25 { }	6 36 { }	7 18 { }	8 19 { }
9 24 { }	10 16 { }	11 10 { }	12 28 { }
13 ___ {1,2,3,4}	14 ___ {1,2,4,8}	15 ___ {1,2,3,4,6}	16 ___ {1,11}

Selected Answers:

7. 04. 02. 03

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NAME _____ CLASS _____ DATE _____

04

FIND THE GREATEST COMMON FACTOR

Directions:

(1-12) Find the GCF.
(13-16) Circle True or False.

1 5 and 10 GCF ____	2 6 and 12 GCF ____	3 4 and 7 GCF ____	4 9 and 18 GCF ____
5 12 and 20 GCF ____	6 6 and 20 GCF ____	7 24 and 36 GCF ____	8 9 and 36 GCF ____
9 9 and 37 GCF ____	10 28 and 40 GCF ____	11 180 and 210 GCF ____	12 14 and 147 GCF ____
13 T or F 3 is the GCF of 6 and 9.	14 T or F 2 is the GCF of 4 and 8.	15 T or F 4 is the GCF of 16 and 20.	16 T or F 2 is the GCF of 18 and 60.

Selected Answers:

7. 04. 02. 04

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NAME CLASS DATE

04

LIST THE SET OF ALL MULTIPLES OF A NUMBER

Directions:

(1-12) List the set of multiples.
(13-16) For what number is each set the set of all multiples?

1 3 { }	2 5 { }	3 12 { }	4 9 { }
5 2 { }	6 7 { }	7 11 { }	8 20 { }
9 35 { }	10 17 { }	11 6 { }	12 28 { }
13 {0, 2, 4, ...} —	14 {0, 8, 16, ...} —	15 {0, 3, 6, ...} —	16 {0, 15, 30, ...} —

Selected Answers:

7 . 04 . 02 . 05

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NAME CLASS DATE

04

FIND THE LEAST COMMON MULTIPLE

Directions:

(1-12) Find the LCM.
(13-16) Circle True or False.

1 2 and 3 LCM ____	2 4 and 6 LCM ____	3 3 and 7 LCM ____	4 4 and 8 LCM ____
5 5 and 30 LCM ____	6 7 and 9 LCM ____	7 8 and 12 LCM ____	8 16 and 20 LCM ____
9 30 and 72 LCM ____	10 10 and 42 LCM ____	11 9 and 15 LCM ____	12 14 and 49 LCM ____
13 T or F 8 is the LCM of 2 and 4.	14 T or F 3 is the LCM of 3 and 27.	15 T or F 120 is the LCM of 12 and 40.	16 T or F 90 is the LCM of 30 and 36.

Selected Answers:

7.04.03

PRIMES AND COMPOSITES

(advanced, 7 days)

04

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.04.03.01 identify numbers as being either prime or composite;

7.04.03.02 express a composite number as a product of prime factors with or without exponents;

7.04.03.03 determine the greatest common factor (G.C.F.) of two or more whole numbers;

7.04.03.04 determine the least common multiple (L.C.M.) of two or more whole numbers;

7.04.03.05 identify two numbers as being relatively prime if their greatest common factor is 1;

7.04.03.06 understand and use the formula $LCM = \frac{a \cdot b}{GCF}$ where a,b are whole numbers.

7 . 04 . 03 . 01

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NAME CLASS DATE

04

IDENTIFY PRIME AND COMPOSITE NUMBERS

Directions:

(1-15) Indicate whether the number is prime or composite.
(16-24) Follow directions in boxes.

1 C or P 16	2 C or P 25	3 C or P 7	4 C or P 19	5 C or P 23
6 C or P 61	7 C or P 69	8 C or P 35	9 C or P 33	10 C or P 47
11 C or P 49	12 C or P 53	13 C or P 51	14 C or P 73	15 C or P 75

16 LIST THE SET OF ALL PRIMES LESS THAN 10.	17 LIST THE SET OF ALL PRIMES BETWEEN 10 and 20.	18 LIST THE SET OF ALL PRIMES BETWEEN 20 and 30.
19 LIST THE SET OF ALL PRIMES BETWEEN 30 AND 40.	20 LIST THE SET OF ALL PRIMES BETWEEN 40 AND 50.	21 LIST THE SET OF ALL PRIMES BETWEEN 50 AND 60.
22 WHAT IS THE SUM OF THE FIRST FIVE PRIMES?	23 WHAT IS THE DIFFERENCE BETWEEN THE FIRST TWO PRIMES?	24 WHAT IS THE PRODUCT OF THE FIRST THREE PRIMES?

Selected Answers:

7 . 04 . 03 .02

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NAME CLASS DATE

WRITE A COMPOSITE NUMBER AS A PRODUCT OF ITS PRIME FACTORS

04

Directions:

Write each composite number as a product of primes with and without exponents.

1 $12 =$ $12 =$	7 $50 =$ $50 =$
2 $16 =$ $16 =$	8 $120 =$ $120 =$
3 $20 =$ $20 =$	9 $72 =$ $72 =$
4 $36 =$ $36 =$	10 $168 =$ 168
5 $40 =$ $40 =$	11 $700 =$ $700 =$
6 $34 =$ $34 =$	12 $440 =$ $440 =$

Selected Answers:

7 . 04 . 03 . 03

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NAME _____ CLASS _____ DATE _____

04

FIND THE GREATEST COMMON FACTOR OF TWO OR MORE NUMBERS

Directions:

Find the GCF.

1 8 and 10 GCF ____	2 8 and 12 GCF ____	3 20 and 50 GCF ____	4 60 and 90 GCF ____
5 30 and 35 GCF ____	6 9 and 70 GCF ____	7 2, 3, and 6 GCF ____	8 4, 7, and 10 GCF ____
9 3, 9, and 10 GCF ____	10 6, 12, and 70 GCF ____	11 12, 30 and 70 GCF ____	12 55, 66, and 99 GCF ____
13 12, 30, and 42 GCF ____	14 6, 15, and 21 GCF ____	15 14, 21, and 63 GCF ____	16 51, 68, and 85 GCF ____

Selected Answers:

7 . 04 . 03 . 04

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NAME _____ CLASS _____ DATE _____

04

FIND THE LEAST COMMON MULTIPLE OF 2 OR MORE NUMBERS

Directions:

(1-12) Find the LCM.
(13-16) Circle True or False.

1 2 and 6 LCM _____	2 6 and 30 LCM _____	3 8 and 12 LCM _____	4 14 and 20 LCM _____
5 3, 4, and 6 LCM _____	6 6, 14, and 24 LCM _____	7 5, 6, and 7 LCM _____	8 6, 10, and 21 LCM _____
9 10, 12, and 21 LCM _____	10 14, 15, and 75 LCM _____	11 15, 30, and 75 LCM _____	12 9, 15, and 27 LCM _____
13 T or F 120 is the LCM of 4, 5, and 6.	14 T or F 30 is the LCM of 2, 3, and 5.	15 T or F 280 is the LCM of 14, 20, and 56.	16 T or F 210 is the LCM of 10, 18 and 21.

Selected Answers:

7 . 04 . 03 . 05

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NAME CLASS DATE

04

IDENTIFY RELATIVELY PRIME NUMBERS

Directions:

(1-12) Determine whether each pair of numbers is relatively prime.
(13-16) Select a number that will make the pair relatively prime.

1 (3,8)	2 (4,16)	3 (9,5)	4 (8,25)
5 (8,50)	6 (45,49)	7 (45,231)	8 (49,35)
9 (85,231)	10 (51,95)	11 (51,85)	12 (119,285)
13 (4,___)	14 (15,___)	15 (21,___)	16 (20,___)

Selected Answers:

7 . 04 . 03 . 06

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NAME _____ CLASS _____ DATE _____

04

KNOW AND USE THE FORMULA FOR THE LCM

Directions:

Complete the chart.

I

	a	b	GCF	LCM
1.	6	3	3	___
2.	2	5	1	___
3.	12	14	2	___
4.	5	6	___	___
5.	10	6	___	___
6.	25	35	___	___
7.	21	45	___	___
8.	28	24	___	___
9.	18	42	___	___
10.	35	70	___	___

II

	a	b	GCF	LCM
	12	60	12	___
	21	35	3	___
	30	35	5	___
	30	42	___	___
	18	35	___	___
	8	42	___	___
	5	33	___	___
	21	110	___	___
	35	54	___	___
	105	110	___	___

Selected Answers:

TOPIC 5

DIVISION OF WHOLE NUMBERS

7.05.01	Division of Whole Numbers	(minimal, 7 days)
7.05.02	Verbal Problems Involving Whole Numbers and One Operation	(minimal, 5 days)
7.05.03	Verbal Problems Involving Whole Numbers and Two Operations	(standard, 5 days)

05

7.05.01

DIVISION OF WHOLE NUMBERS

(minimal, 7 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

05

7.05.01.01	rename a quotient with a remainder in mixed fractional form;
7.05.01.02	compute the quotient with or without a remainder where the dividend is a one digit number and the divisor is a one digit number;
7.05.01.03	compute the quotient with or without a remainder where the dividend is a two digit number and the divisor is a one digit number;
7.05.01.04	compute the quotient with or without a remainder where the dividend is a two digit number and the divisor is a two digit number;
7.05.01.05	compute the quotient with or without a remainder where the dividend is a three digit number and the divisor a two digit number;
7.05.01.06	compute the quotient with or without a remainder where the dividend is a four digit number and the divisor is a two digit number;
7.05.01.07	compute the quotient with or without a remainder where the dividend is a four digit number and the divisor is a three digit number.

7·05 · 01 · 01

NAME CLASS DATE

WRITE THE REMAINDER AS A FRACTION

Directions:

Change each answer to fractional form.

05

1) $3\overline{)58}$ = 19R1	2) $7\overline{)146}$ = 20R6	3) $12\overline{)434}$ = 36R2	4) $5\overline{)47}$ = 9R2
5) $11\overline{)102}$ = 9R3	6) $4\overline{)51}$ = 12R3	7) $6\overline{)154}$ = 25R4	8) $15\overline{)96}$ = 6R6
9) $9\overline{)328}$ = 36R4	10) $18\overline{)37}$ = 2R1	11) $7\overline{)500}$ = 71R3	12) $13\overline{)146}$ = 11R3
13) $11\overline{)90}$ = 8R2	14) $3\overline{)140}$ = 46R2	15) $8\overline{)97}$ = 12R1	16) $5\overline{)4374}$ = 874R4

Selected Answers:

7 ·05 ·01 ·02

7 .05 .01 .03

NAME _____ CLASS _____ DATE _____

DIVIDE A ONE DIGIT NUMBER BY A ONE DIGIT NUMBER
DIVIDE A TWO DIGIT NUMBER BY A ONE DIGIT NUMBER

Directions:

Divide. Write answers both in fractional form and with remainders.

05

1 $5\overline{)9}$	2 $7 \div 2 =$	3 $3\overline{)8}$	4 $8 \div 4 =$
5 $7\overline{)18}$	6 $35 \div 6 =$	7 $45 \div 7 =$	8 $9\overline{)56}$
9 $7\overline{)83}$	10 $7\overline{)91}$	11 $3\overline{)57}$	12 $19 \div 4 =$
13 $59 \div 2 =$	14 $5\overline{)99}$	15 $7\overline{)37}$	16 $4\overline{)31}$

Selected Answers:

7.05.01.04

7.05.01.05

NAME _____ CLASS _____ DATE _____

DIVIDE A TWO DIGIT NUMBER BY A TWO DIGIT NUMBER
DIVIDE A THREE DIGIT NUMBER BY A TWO DIGIT NUMBER.

Directions:

Divide. Write answers both in fractional form and with remainders.

05

1 $20\overline{)40}$	2 $30\overline{)90}$	3 $40\overline{)80}$	4 $27\overline{)58}$
5 $49 \div 23 =$	6 $93 \div 41 =$	7 $15\overline{)63}$	8 $13\overline{)85}$
9 $40\overline{)160}$	10 $40\overline{)167}$	11 $516 \div 12 =$	12 $721 \div 12 =$
13 $1075 \div 21 =$	14 $51\overline{)896}$	15 $29\overline{)870}$	16 $17\overline{)913}$

Selected Answers:

7.05.01.06

NAME CLASS DATE

DIVIDE A FOUR DIGIT NUMBER BY A TWO DIGIT NUMBER

Directions:

Divide. Write answers both in fractional form and with remainders.

05

1 $27\overline{)3564}$	2 $74\overline{)7262}$	3 $36\overline{)2026}$	4 $34\overline{)3830}$
5 $34\overline{)4284}$	6 $53\overline{)2120}$	7 $32\overline{)5280}$	8 $43\overline{)6751}$
9 $26\overline{)6318}$	10 $75\overline{)9150}$	11 $42\overline{)8956}$	12 $31\overline{)9875}$
13 $23\overline{)3844}$	14 $63\overline{)9008}$	15 $23\overline{)5543}$	16 $15\overline{)6009}$

Selected Answers:

7 . 05 . 01 . 07

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NAME _____ CLASS _____ DATE _____

DIVIDE A FOUR DIGIT NUMBER BY A THREE DIGIT NUMBER

Directions:

Divide. Write answers both in fractional form and with remainders.

05

1 $215\overline{)1125}$	2 $118\overline{)2825}$	3 $321\overline{)2889}$	4 $321\overline{)4822}$
5 $105\overline{)1785}$	6 $309\overline{)8037}$	7 $309\overline{)6180}$	8 $309\overline{)6187}$
9 $250\overline{)1757}$	10 $223\overline{)1791}$	11 $536\overline{)2680}$	12 $429\overline{)5588}$
13 $211\overline{)1900}$	14 $211\overline{)2965}$	15 $326\overline{)7498}$	16 $455\overline{)8656}$

Selected Answers:

7.05.02

VERBAL PROBLEMS

(minimal, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.05.02.01	solve a verbal problem involving whole numbers and one operation.

7.05.03

VERBAL PROBLEMS

(standard, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.05.03.01	solve a verbal problem involving whole numbers and two operations.

TOPIC 6

FRACTIONS

7.06.01	Fractional Concepts	(minimal, 6 days)
7.06.02	Fractional Relationships	(standard, 10 days)
7.06.03	Addition and Subtraction of Fractions	(standard, 8 days)
7.06.04	Multiplication and Division of Fractions	(standard, 7 days)
7.06.05	Verbal Problems Involving Fractions	(standard, 4 days)
7.06.06	Advanced Fractional Computations and Concepts	(advanced, 8 days)

06

7.06.01

FRACTIONAL CONCEPTS

(minimal, [illegible] days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.01.01	identify the numerator and denominator of a given fraction;
7.06.01.02	write as a fraction a given part of a region;
7.06.01.03	identify equivalent fractions given a diagram;
7.06.01.04	express a fraction in simplest form (lowest terms).

7. 06. 01. 01

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NAME _____ CLASS _____ DATE _____

IDENTIFY THE NUMERATOR AND DENOMINATOR

Directions:

In each fraction tell which number is the numerator and which number is the denominator.

1 $\frac{2}{3}$	2 $\frac{5}{9}$	3 $\frac{11}{4}$	4 $\frac{5}{8}$
5 $\frac{1}{4}$	6 $\frac{5}{3}$	7 $\frac{2}{5}$	8 $\frac{4}{9}$
9 $\frac{1}{3}$	10 $\frac{1}{2}$	11 $\frac{3}{2}$	12 $\frac{4}{3}$
13 $\frac{2}{7}$	14 $\frac{5}{11}$	15 $\frac{11}{5}$	16 $\frac{19}{2}$

06

Selected Answers:

7 .06 .01 .02

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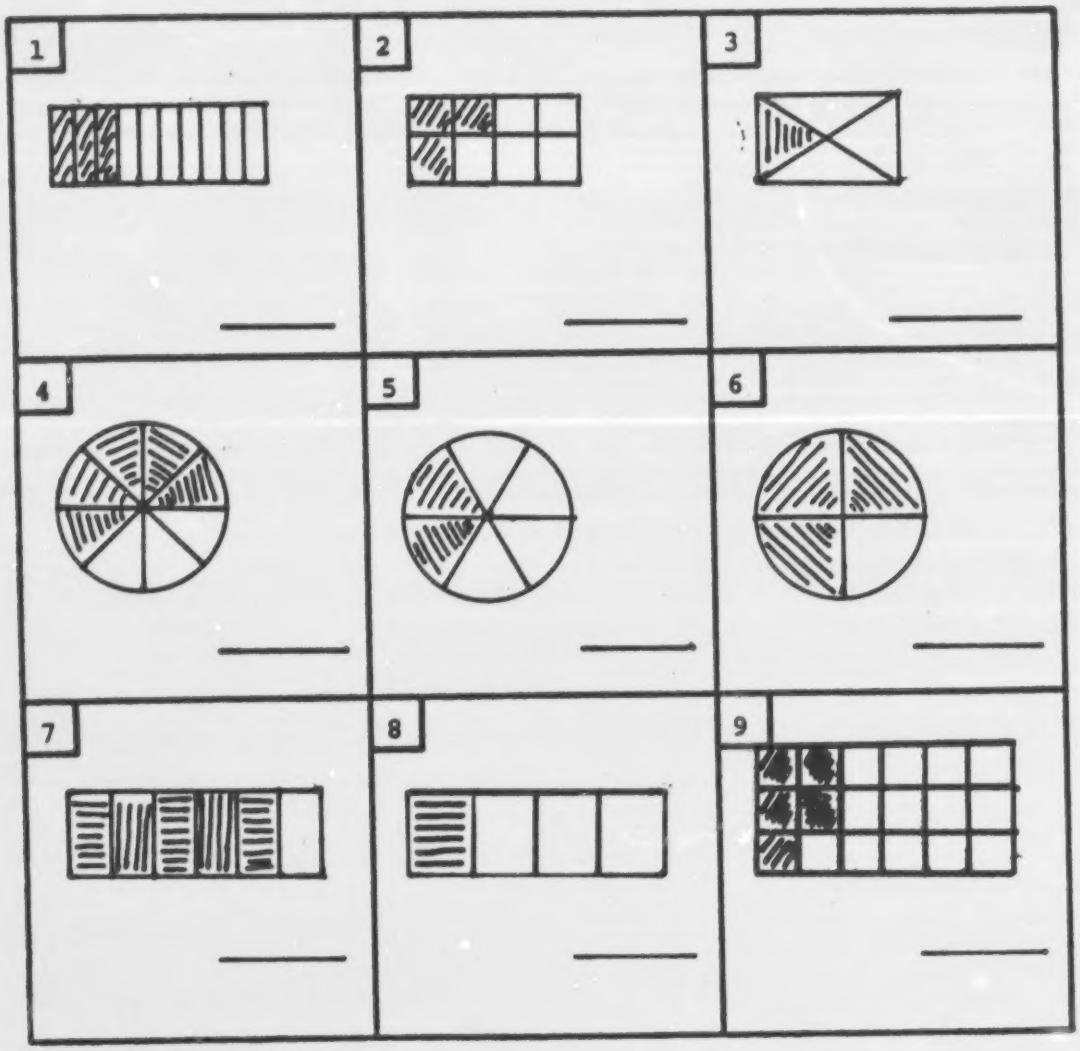
NAME CLASS DATE

WRITE A FRACTION FROM A PICTURE

Directions:

What part is shaded?



06

Selected Answers:

7 • 06 • 01 • 03

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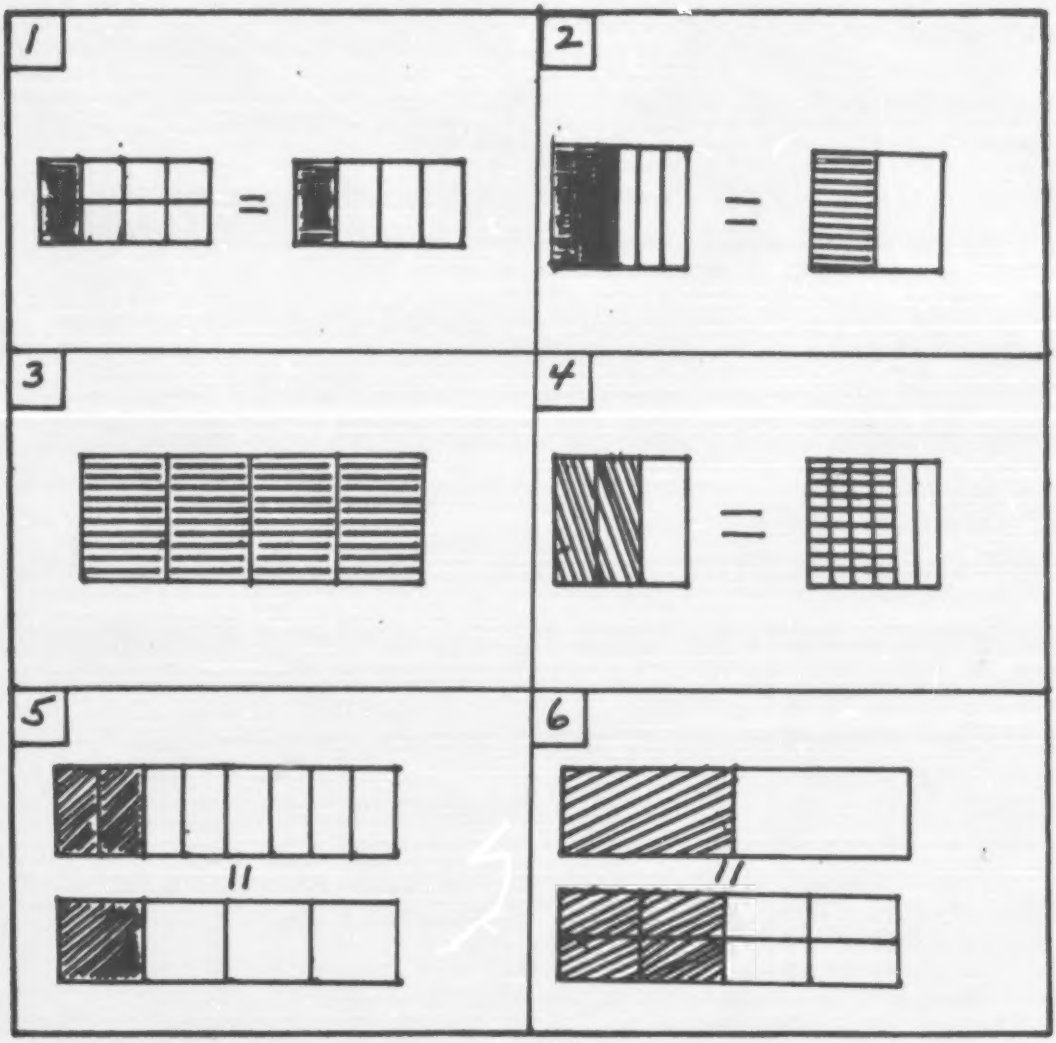
NAME _____ CLASS _____ DATE _____

IDENTIFY EQUIVALENT FRACTIONS

Directions:

What does each pair of pictures show?



06

Selected Answers:

7 .06 .01 .04

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NAME CLASS DATE

WRITE A FRACTION IN SIMPLEST FORM

Directions:

Reduce each fraction to simplest form.

1 $\frac{2}{4}=$	2 $\frac{6}{8}=$	3 $\frac{10}{12}=$	4 $\frac{5}{15}=$	5 $\frac{3}{9}=$
6 $\frac{4}{16}=$	7 $\frac{5}{20}=$	8 $\frac{7}{21}=$	9 $\frac{18}{24}=$	10 $\frac{6}{12}=$
11 $\frac{5}{50}=$	12 $\frac{10}{30}=$	13 $\frac{10}{50}=$	14 $\frac{5}{25}=$	15 $\frac{10}{25}=$
16 $\frac{12}{16}=$	17 $\frac{12}{24}=$	18 $\frac{12}{18}=$	19 $\frac{24}{32}=$	20 $\frac{15}{25}=$
21 $\frac{20}{25}=$	22 $\frac{21}{28}=$	23 $\frac{25}{25}=$	24 $\frac{50}{75}=$	25 $\frac{25}{100}=$

Selected Answers:

06

7.06.02

FRACTIONAL RELATIONSHIPS

(Standard, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

*7.06.02.01	write the quotient as a fraction for a given division example;
*7.06.02.02	multiply a fraction by an equivalent form of one;
7.06.02.03	write the first ten equivalent fractions for a given fraction;
7.06.02.04	change a fraction to an equivalent fraction with a given denominator;
7.06.02.05	change an improper fraction to a mixed fraction or whole number;
7.06.02.06	change a mixed fraction or whole number to an improper fraction;
7.06.02.07	change an "improper mixed fraction" to "reduced standard form" e.g. $4\frac{7}{5} = 5\frac{2}{5}$, $5\frac{8}{6} = 6\frac{1}{3}$;
7.06.02.08	determine the least common denominator (L.C.D.) of two or more fractions;
7.06.02.09	compare two fractions with like denomators using $>$, $<$, $=$;

* This I. O. is not tested in an ISS test.

continued ...

7. 06. 02. 03

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NAME CLASS DATE

WRITE EQUIVALENT FRACTIONS

Directions:

Write 5 equivalent fractions for each fraction.

1 $\frac{3}{4}$ { }	2 $\frac{5}{7}$ { }	3 $\frac{4}{5}$ { }
4 $\frac{5}{4}$ { }	5 $\frac{1}{9}$ { }	6 $\frac{3}{11}$ { }
7 $\frac{4}{1}$ { }	8 $\frac{2}{5}$ { }	9 $\frac{9}{13}$ { }

Selected Answers:

NAME _____ CLASS _____ DATE _____

WRITE EQUIVALENT FRACTIONS FOR GIVEN DENOMINATORS

Directions:

Fill in the missing numerators.

1 $\frac{3}{4} = \frac{\quad}{16}$	2 $\frac{4}{5} = \frac{\quad}{25}$	3 $\frac{1}{2} = \frac{\quad}{20}$	4 $\frac{5}{11} = \frac{\quad}{33}$
5 $\frac{2}{11} = \frac{\quad}{44}$	6 $\frac{5}{7} = \frac{\quad}{28}$	7 $\frac{7}{5} = \frac{\quad}{25}$	8 $\frac{4}{9} = \frac{\quad}{45}$
9 $\frac{1}{2} = \frac{\quad}{100}$	10 $\frac{4}{12} = \frac{\quad}{60}$	11 $\frac{11}{5} = \frac{\quad}{30}$	12 $\frac{12}{30} = \frac{\quad}{120}$
13 $\frac{11}{23} = \frac{\quad}{92}$	14 $\frac{5}{13} = \frac{\quad}{65}$	15 $\frac{13}{6} = \frac{\quad}{72}$	16 $\frac{12}{12} = \frac{\quad}{36}$

Selected Answers:

NAME _____ CLASS _____ DATE _____

IMPROPER FRACTIONS TO MIXED FRACTIONS OR WHOLE NUMBERS

Directions:

Write each improper fraction as a mixed fraction or whole number.

1 $\frac{15}{3}=$	2 $\frac{17}{3}=$	3 $\frac{25}{4}=$	4 $\frac{19}{5}=$
5 $\frac{35}{7}=$	6 $\frac{39}{7}=$	7 $\frac{56}{12}=$	8 $\frac{42}{15}=$
9 $\frac{59}{13}=$	10 $\frac{60}{15}=$	11 $\frac{47}{9}=$	12 $\frac{110}{15}=$
13 $\frac{125}{5}=$	14 $\frac{156}{2}=$	15 $\frac{249}{16}=$	16 $\frac{221}{11}=$

Selected Answers:

7 . 06 . 02 . 06

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NAME CLASS DATE

MIXED FRACTIONS OR WHOLE NUMBERS TO IMPROPER FRACTIONS

Directions:

Write each mixed fraction or whole number as an improper fraction.

1 $5\frac{2}{3}=$	2 $7\frac{1}{4}=$	3 $8\frac{3}{5}=$	4 $9=$
5 $2\frac{3}{7}=$	6 $14\frac{1}{4}=$	7 $9\frac{2}{3}=$	8 $12=$
9 $15\frac{2}{3}=$	10 $17\frac{1}{4}=$	11 $18\frac{2}{5}=$	12 $15=$
13 $5\frac{7}{11}=$	14 $6\frac{8}{13}=$	15 $7\frac{6}{17}=$	16 $11\frac{11}{13}=$

Selected Answers:

7 . 06 . 02 . 07

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NAME CLASS DATE

IMPROPER MIXED FRACTIONS TO REDUCED STANDARD FORM

Directions:

Write each improper mixed fraction in reduced standard form.

1 $3\frac{3}{2}=$	2 $4\frac{3}{2}=$	3 $5\frac{7}{4}=$	4 $8\frac{6}{4}=$
5 $12\frac{5}{3}=$	6 $11\frac{7}{4}=$	7 $10\frac{5}{2}=$	8 $16\frac{7}{2}=$
9 $15\frac{6}{3}=$	10 $18\frac{10}{2}=$	11 $19\frac{3}{2}=$	12 $20\frac{14}{2}=$
13 $6\frac{11}{2}=$	14 $7\frac{14}{3}=$	15 $8\frac{12}{3}=$	16 $14\frac{16}{6}=$

Selected Answers:

NAME _____ CLASS _____ DATE _____

FIND THE LEAST COMMON DENOMINATOR

Directions:

Determine the least common denominator.

1 $(\frac{4}{5}, \frac{2}{3})$	2 $(\frac{1}{4}, \frac{2}{3})$	3 $(\frac{4}{7}, \frac{2}{5})$	4 $(\frac{5}{3}, \frac{3}{4})$
5 $(\frac{5}{9}, \frac{3}{4})$	6 $(\frac{4}{6}, \frac{1}{2})$	7 $(\frac{5}{4}, \frac{2}{5})$	8 $(\frac{4}{11}, \frac{3}{5})$
9 $(\frac{1}{2}, \frac{1}{3}, \frac{1}{4})$	10 $(\frac{1}{2}, \frac{2}{5}, \frac{5}{6})$	11 $(\frac{2}{3}, \frac{2}{5}, \frac{1}{4})$	12 $(\frac{3}{5}, \frac{2}{7}, \frac{1}{4})$
13 $(\frac{5}{10}, \frac{1}{2}, \frac{2}{5})$	14 $(\frac{2}{3}, \frac{1}{4}, \frac{5}{12})$	15 $(\frac{3}{5}, \frac{1}{10}, \frac{1}{20})$	16 $(\frac{1}{2}, \frac{2}{3}, \frac{5}{6})$

Selected Answers:

7 . 06 . 02 . 09

7 . 06 . 02 . 10

NAME _____ CLASS _____ DATE _____

COMPARING FRACTIONS WITH LIKE DENOMINATORS
COMPARING MIXED FRACTIONS WITH LIKE DENOMINATORS

Directions:

Place either <, >, or = inside the circle to make a true statement.

1 $\frac{3}{5} \bigcirc \frac{2}{5}$	2 $\frac{4}{9} \bigcirc \frac{4}{9}$	3 $\frac{5}{2} \bigcirc \frac{7}{2}$	4 $\frac{4}{11} \bigcirc \frac{5}{11}$
5 $5\frac{2}{3} \bigcirc 4\frac{2}{3}$	6 $8\frac{1}{5} \bigcirc 8\frac{2}{5}$	7 $12\frac{4}{7} \bigcirc 12\frac{4}{7}$	8 $25\frac{1}{7} \bigcirc 25\frac{3}{4}$
9 $\frac{5}{12} \bigcirc \frac{3}{12}$	10 $\frac{4}{9} \bigcirc \frac{1}{9}$	11 $\frac{5}{7} \bigcirc \frac{6}{7}$	12 $\frac{4}{11} \bigcirc \frac{13}{11}$
13 $8\frac{3}{5} \bigcirc 5\frac{5}{5}$	14 $6\frac{2}{3} \bigcirc 6\frac{1}{3}$	15 $5\frac{1}{4} \bigcirc 3\frac{3}{4}$	16 $12\frac{5}{3} \bigcirc 12\frac{7}{3}$

Selected Answers:

7.06.02.10	compare two mixed fractions with like denominators using >, <, = ;
7.06.02.11	compare two fractions with unlike denominators using >, <, = ;
7.06.02.12	compare two mixed fractions with unlike denominators using >, <, = .

7 . 06 . 02 . 11

NAME CLASS DATE

COMPARING FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Place either $<$, $>$, or $=$ inside the circle to make a true statement.

1 $\frac{1}{2} \bigcirc \frac{3}{7}$	2 $\frac{3}{7} \bigcirc \frac{2}{3}$	3 $\frac{1}{3} \bigcirc \frac{3}{9}$	4 $\frac{4}{5} \bigcirc \frac{1}{3}$
5 $\frac{1}{2} \bigcirc \frac{2}{5}$	6 $\frac{3}{4} \bigcirc \frac{4}{5}$	7 $\frac{1}{9} \bigcirc \frac{4}{13}$	8 $\frac{5}{12} \bigcirc \frac{4}{13}$
9 $\frac{1}{5} \bigcirc \frac{1}{4}$	10 $\frac{3}{7} \bigcirc \frac{3}{8}$	11 $\frac{5}{9} \bigcirc \frac{4}{11}$	12 $\frac{6}{14} \bigcirc \frac{6}{17}$
13 $\frac{5}{12} \bigcirc \frac{3}{4}$	14 $\frac{5}{16} \bigcirc \frac{5}{12}$	15 $\frac{5}{16} \bigcirc \frac{3}{5}$	16 $\frac{4}{11} \bigcirc \frac{2}{5}$

Selected Answers:

NAME _____ CLASS _____ DATE _____

COMPARING MIXED FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Place either $<$, $>$, or $=$ inside the circle to make a true statement.

1 $12\frac{1}{3} \bigcirc 12\frac{1}{4}$	2 $9\frac{2}{3} \bigcirc 12\frac{1}{4}$	3 $18\frac{3}{5} \bigcirc 18\frac{4}{7}$	4 $6\frac{2}{3} \bigcirc 5$
5 $7\frac{1}{4} \bigcirc 5\frac{2}{3}$	6 $14\frac{5}{13} \bigcirc 16\frac{1}{4}$	7 $10 \bigcirc 12\frac{1}{4}$	8 $9\frac{2}{3} \bigcirc 9\frac{3}{4}$
9 $5\frac{1}{2} \bigcirc 5\frac{1}{4}$	10 $6\frac{2}{3} \bigcirc 1\frac{5}{11}$	11 $12\frac{3}{5} \bigcirc 10\frac{1}{4}$	12 $18\frac{1}{3} \bigcirc 18\frac{1}{6}$
13 $14\frac{3}{5} \bigcirc 14\frac{1}{2}$	14 $18\frac{1}{9} \bigcirc 18\frac{1}{10}$	15 $16\frac{1}{5} \bigcirc 16\frac{4}{7}$	16 $10\frac{1}{7} \bigcirc 9\frac{4}{5}$

Selected Answers:

7.06.03

ADDITION AND SUBTRACTION OF FRACTIONS

(standard, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.03.01	compute the sum of two fractions or mixed fractions with common denominators;
7.06.03.02	compute the sum of two fractions or mixed fractions with unlike denominators;
7.06.03.03	compute the difference between two fractions or mixed fractions with common denominators;
7.06.03.04	compute the difference between two fractions or mixed fractions with unlike denominators;
7.06.03.05	compute the difference using exchange between two mixed fractions or mixed fractions and a proper fraction with like or unlike denominators;
7.06.03.06	compute the difference using exchange between a whole number and a mixed fraction or a proper fraction.

06

7 . 06 . 03 . 01

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NAME _____ CLASS _____ DATE _____

ADDING FRACTIONS WITH COMMON DENOMINATORS

Directions:

Add.

1 $\frac{5}{12} + \frac{5}{10} = \square$	2 $\frac{3}{4} + \frac{1}{4} = \square$	3 $\frac{5}{7} + \frac{3}{7} = \square$	4 $\frac{4}{11} + \frac{5}{11} = \square$
5 $4\frac{9}{16} + 3\frac{1}{16}$	6 $10\frac{4}{7} + 9\frac{1}{7}$	7 $6\frac{3}{5} + 4\frac{2}{5}$	8 $12\frac{1}{9} + 3\frac{4}{9}$
9 $\frac{5}{11} + \frac{2}{11} = \square$	10 $\frac{4}{7} + \frac{3}{7} + \frac{2}{7} = \square$	11 $\frac{5}{9} + \frac{1}{9} + \frac{1}{9}$	12 $\frac{4}{7} + \frac{3}{7} + \frac{1}{7}$
13 $12\frac{3}{5} + 10\frac{1}{5}$	14 $14\frac{3}{7} + 10\frac{5}{7}$	15 $9\frac{3}{5} + 10\frac{1}{5} + 6\frac{1}{5}$	16 $15\frac{3}{11} + 16\frac{5}{11} + 9\frac{6}{11}$

Selected Answers:

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NAME _____ CLASS _____ DATE _____

ADDING FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Add.

1 $\frac{2}{3} + \frac{1}{4} = \square$	2 $\frac{1}{5} + \frac{1}{2} = \square$	3 $\frac{3}{4} + \frac{1}{3} = \square$	4 $\frac{5}{6} + \frac{1}{4} = \square$
5 $5\frac{2}{3} + 4\frac{1}{4}$	6 $8\frac{1}{5} + 9\frac{1}{2}$	7 $12\frac{3}{4} + 1\frac{1}{3}$	8 $4\frac{5}{6} + 6\frac{1}{4}$
9 $\frac{5}{7} + \frac{1}{2} = \square$	10 $\frac{2}{3} + \frac{4}{9} = \square$	11 $\frac{1}{5} + \frac{3}{10} + \frac{1}{2} = \square$	12 $\frac{1}{6} + \frac{5}{12} + \frac{2}{3} = \square$
13 $12\frac{5}{7} + 9\frac{1}{2}$	14 $14\frac{2}{3} + 6\frac{4}{9}$	15 $12\frac{1}{5} + 9\frac{3}{10} + 6\frac{1}{2}$	16 $2\frac{1}{6} + 4\frac{5}{12} + 6\frac{2}{3}$

Selected Answers:

7 .06 .03 .03

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NAME _____ CLASS _____ DATE _____

06

SUBTRACTING FRACTIONS WITH LIKE DENOMINATORS

Directions:

Subtract.

1 $\frac{4}{9} - \frac{1}{9} = \square$	2 $\frac{5}{7} - \frac{3}{7} = \square$	3 $\frac{4}{11} - \frac{4}{11} = \square$	4 $\frac{5}{13} - \frac{4}{13} = \square$
5 $10\frac{2}{5} - 9\frac{1}{5}$	6 $18\frac{4}{7} - 9\frac{4}{7}$	7 $10\frac{4}{9} - 2\frac{3}{9}$	8 $25\frac{4}{13} - 6\frac{2}{13}$
9 $\frac{11}{12} - \frac{10}{12} = \square$	10 $\frac{5}{8} - \frac{1}{8} = \square$	11 $\frac{3}{13} - \frac{2}{13}$	12 $\frac{4}{7} - \frac{3}{7}$
13 $12\frac{3}{7} - 9\frac{2}{7}$	14 $15\frac{4}{8} - 2\frac{2}{8}$	15 $13\frac{5}{12} - 10\frac{4}{12}$	16 $10\frac{2}{5} - 9\frac{1}{5}$

Selected Answers:

NAME _____ CLASS _____ DATE _____

SUBTRACTING FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Subtract.

1 $\frac{3}{4} - \frac{1}{2} = \square$	2 $\frac{4}{5} - \frac{1}{4} = \square$	3 $\frac{3}{4} - \frac{2}{3} = \square$	4 $\frac{5}{6} - \frac{3}{4} = \square$
5 $10\frac{3}{5} - 9\frac{1}{4}$	6 $12\frac{5}{7} - 9\frac{1}{2}$	7 $15\frac{5}{6} - 6\frac{1}{4}$	8 $25\frac{3}{8} - 9\frac{1}{16}$
9 $\frac{2}{3} - \frac{1}{5} = \square$	10 $\frac{5}{8} - \frac{1}{4} = \square$	11 $\frac{4}{11} - \frac{1}{12} = \square$	12 $\frac{9}{13} - \frac{4}{9} = \square$
13 $15\frac{2}{3} - 9\frac{1}{4}$	14 $18\frac{3}{5} - 9\frac{1}{2}$	15 $5\frac{3}{5} - 1\frac{1}{4}$	16 $12\frac{5}{11} - 9\frac{1}{12}$

06

Selected Answers:

NAME _____ CLASS _____ DATE _____

SUBTRACTING MIXED FRACTIONS

Directions:

Subtract.

1 $12\frac{2}{5} - 6\frac{3}{5}$	2 $15\frac{2}{3} - 6\frac{3}{3}$	3 $14\frac{t}{} - 9\frac{5}{6}$	4 $10\frac{3}{7} - 8\frac{5}{7}$
5 $15\frac{2}{3} - 9\frac{3}{4}$	6 $15\frac{1}{4} - 6\frac{1}{2}$	7 $18\frac{2}{5} - 9\frac{3}{17}$	8 $5\frac{4}{11} - 1\frac{9}{22}$
9 $16\frac{2}{3} - 8\frac{3}{4}$	10 $10\frac{5}{8} - 9\frac{11}{16}$	11 $14\frac{3}{8} - 8\frac{1}{2}$	12 $15\frac{3}{4} - 8\frac{9}{10}$
13 $14\frac{3}{11} - 8\frac{5}{13}$	14 $12\frac{3}{7} - 8\frac{12}{21}$	15 $15\frac{4}{5} - 9\frac{5}{6}$	16 $10\frac{1}{2} - 8\frac{5}{6}$

Selected Answers:

7. 06. 03. 06

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NAME CLASS DATE

SUBTRACTING FRACTIONS FROM WHOLE NUMBERS

Directions:

Subtract.

1 $10-2\frac{1}{5}=\square$	2 $9-8\frac{3}{8}=\square$	3 $12-\frac{3}{5}=\square$	4 $18-\frac{4}{11}=\square$
5 $15-8\frac{4}{9}$	6 $16-\frac{4}{7}$	7 $6-2\frac{4}{7}$	8 $8-\frac{5}{12}$
9 $12-4\frac{1}{11}$	10 $8-2\frac{3}{7}$	11 $6-5\frac{1}{3}$	12 $12-8\frac{3}{5}$
13 $10-8\frac{4}{7}$	14 $8-\frac{3}{11}$	15 $12-\frac{5}{6}$	16 $10-5\frac{4}{13}$

Selected Answers:

06

7.06.04

MULTIPLICATION AND DIVISION OF FRACTIONS

(standard, 7 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.04.01 compute the product of two fractions using the algorithm: $\frac{a}{b} \times \frac{c}{d} = \frac{axc}{bxd}$;

7.06.04.02 compute the product given mixed fractions and/or whole numbers;

7.06.04.03 compute the product in lowest terms given fractions, mixed fractions and whole numbers (cancellation suggested);

7.06.04.04 find the reciprocal of a fraction, mixed fraction or whole number;

7.06.04.05 compute the quotient of two fractions using the algorithm:

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{axd}{bxc};$$

7.06.04.06 compute the quotient in lowest terms given fractions, mixed fractions and/or whole numbers

06

NAME _____ CLASS _____ DATE _____

MULTIPLYING TWO FRACTIONS

Directions:

Multiply. Reduce to lowest terms.

1 $\frac{2}{3} \times \frac{5}{7} = \square$	2 $\frac{4}{11} \times \frac{5}{7} = \square$	3 $\frac{2}{13} \times \frac{1}{5} = \square$	4 $\frac{3}{5} \times \frac{2}{5} = \square$
5 $\frac{3}{5} \times \frac{5}{11} = \square$	6 $\frac{2}{3} \times \frac{3}{9} = \square$	7 $\frac{2}{3} \times \frac{3}{10} = \square$	8 $\frac{5}{1} \times \frac{6}{13} = \square$
9 $\frac{2}{15} \times \frac{5}{12} = \square$	10 $\frac{8}{3} \times \frac{4}{11} = \square$	11 $\frac{5}{7} \times \frac{6}{13} = \square$	12 $\frac{4}{11} \times \frac{11}{16} = \square$
13 $\frac{2}{3} \times \frac{9}{11} = \square$	14 $\frac{4}{15} \times \frac{7}{11} = \square$	15 $\frac{2}{5} \times \frac{3}{17} = \square$	16 $\frac{4}{9} \times \frac{2}{5} = \square$

Selected Answers:

7 . 06 . 04 . 02

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NAME _____ CLASS _____ DATE _____

MULTIPLY MIXED FRACTIONS AND/OR WHOLE NUMBERS

Directions:

Multiply. Reduce to lowest terms.

1 $8 \times 2\frac{3}{4} =$	2 $6 \times 4\frac{1}{3} =$	3 $2\frac{1}{5} \times 5 =$	4 $12 \times 7\frac{1}{3} =$
5 $\frac{5}{6} \times 2\frac{1}{3} =$	6 $\frac{4}{9} \times 3\frac{1}{4} =$	7 $2\frac{2}{3} \times \frac{6}{11} =$	8 $5\frac{1}{6} \times \frac{7}{31} =$
9 $2\frac{1}{4} \times 2\frac{1}{4} =$	10 $5\frac{3}{3} \times 4\frac{1}{3} =$	11 $2\frac{3}{4} \times 5\frac{2}{5} =$	12 $5\frac{1}{2} \times 3\frac{1}{2} =$
13 $9\frac{2}{3} \times 3\frac{1}{4} =$	14 $14\frac{3}{4} \times 6\frac{1}{3} =$	15 $8\frac{3}{11} \times 4\frac{1}{6} =$	16 $7\frac{3}{4} \times 8\frac{4}{13} =$

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Selected Answers:

NAME _____ CLASS _____ DATE _____

FIND THE PRODUCT OF TWO FRACTIONS IN LOWEST TERMS

Directions:

Compute the product in lowest terms (cancellation suggested).

1 $\frac{3}{4} \times \frac{8}{9} = \square$	2 $\frac{5}{6} \times 12 = \square$	3 $\frac{5}{7} \times \frac{14}{3} = \square$	4 $15 \times \frac{3}{5} = \square$
5 $3\frac{1}{4} \times 8 = \square$	6 $9 \times 4\frac{2}{3} = \square$	7 $\frac{5}{11} \times \frac{11}{15} = \square$	8 $\frac{4}{9} \times \frac{18}{8} = \square$
9 $2\frac{1}{3} \times 1\frac{1}{5} = \square$	10 $1\frac{5}{9} \times 2\frac{4}{7} = \square$	11 $6\frac{1}{3} \times 1\frac{1}{5} = \square$	12 $2\frac{3}{7} \times 4\frac{2}{3} = \square$
13 $1\frac{6}{9} \times 1\frac{4}{5} = \square$	14 $4\frac{2}{7} \times 2\frac{4}{5} = \square$	15 $18\frac{2}{9} \times 1\frac{1}{2} = \square$	16 $2\frac{2}{11} \times 4\frac{2}{5} = \square$

Selected Answers:

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NAME CLASS DATE

FINDING RECIPROCALS

Directions:

Find the reciprocal.

1 5	2 $\frac{2}{3}$	3 $\frac{7}{4}$	4 $2\frac{1}{3}$	5 $15\frac{1}{3}$
6 12	7 $\frac{3}{7}$	8 $\frac{8}{5}$	9 $4\frac{1}{4}$	10 $12\frac{3}{7}$
11 6	12 $\frac{4}{5}$	13 $\frac{12}{4}$	14 $9\frac{2}{3}$	15 $12\frac{1}{5}$
16 9	17 $\frac{5}{6}$	18 $\frac{15}{3}$	19 $12\frac{2}{5}$	20 $20\frac{1}{3}$
21 25	22 $\frac{7}{8}$	23 $\frac{19}{7}$	24 $10\frac{3}{5}$	25 $7\frac{1}{4}$

Selected Answers:

7 . 06 . 04 . 05

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NAME _____ CLASS _____ DATE _____

DIVIDE TWO FRACTIONS

Directions:

Divide.

1 $\frac{3}{5} \div \frac{1}{4} = \square$	2 $\frac{2}{5} \div \frac{5}{2} = \square$	3 $\frac{4}{9} \div \frac{7}{8} = \square$	4 $\frac{1}{11} \div \frac{2}{5} = \square$
5 $\frac{5}{9} \div \frac{2}{7} = \square$	6 $\frac{2}{11} \div \frac{7}{12} = \square$	7 $\frac{2}{9} \div \frac{3}{5} = \square$	8 $\frac{5}{12} \div \frac{3}{5} = \square$
9 $\frac{8}{9} \div \frac{3}{4} = \square$	10 $\frac{12}{11} \div \frac{5}{13} = \square$	11 $\frac{5}{17} \div \frac{6}{11} = \square$	12 $\frac{1}{10} \div \frac{6}{7} = \square$
13 $\frac{8}{9} \div \frac{9}{8} = \square$	14 $\frac{15}{17} \div \frac{4}{9} = \square$	15 $\frac{12}{13} \div \frac{5}{7} = \square$	16 $\frac{1}{4} \div \frac{19}{3} = \square$

Selected Answers:

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NAME CLASS DATE

FIND THE QUOTIENT OF TWO FRACTIONS IN LOWEST TERMS

Directions:

Compute the quotient in lowest terms.

1 $2\frac{1}{2} \div 5 =$ ☐	2 $5 \div 2\frac{1}{2} =$ ☐	3 $6 \div 1\frac{1}{4} =$ ☐	4 $1\frac{1}{4} \div 6 =$ ☐
5 $\frac{3}{4} \div 1\frac{3}{8} =$ ☐	6 $2\frac{1}{7} \div \frac{5}{7} =$ ☐	7 $\frac{3}{8} \div 1\frac{3}{16} =$ ☐	8 $\frac{2}{3} \div 1\frac{4}{11} =$ ☐
9 $2\frac{1}{5} \div 1\frac{3}{10} =$ ☐	10 $1\frac{5}{12} \div 1\frac{1}{3} =$ ☐	11 $4\frac{1}{4} \div 5\frac{1}{2} =$ ☐	12 $4\frac{3}{4} \div 8\frac{1}{2} =$ ☐
13 $7\frac{1}{2} \div 1\frac{5}{8} =$ ☐	14 $1\frac{5}{6} \div 7\frac{1}{2} =$ ☐	15 $1\frac{1}{5} \div 2\frac{2}{5} =$ ☐	16 $2\frac{2}{9} \div 4\frac{1}{3} =$ ☐

Selected Answers:

7.06.03

ADDITION AND SUBTRACTION OF FRACTIONS

(standard, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.03.01	compute the sum of two fractions or mixed fractions with common denominators;
7.06.03.02	compute the sum of two fractions or mixed fractions with unlike denominators;
7.06.03.03	compute the difference between two fractions or mixed fractions with common denominators;
7.06.03.04	compute the difference between two fractions or mixed fractions with unlike denominators;
7.06.03.05	compute the difference using exchange between two mixed fractions or mixed fractions and a proper fraction with like or unlike denominators;
7.06.03.06	compute the difference using exchange between a whole number and a mixed fraction or a proper fraction.

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NAME _____ CLASS _____ DATE _____

ADDING FRACTIONS WITH COMMON DENOMINATORS

Directions:

Add.

1 $\frac{5}{12} + \frac{5}{10} = \square$	2 $\frac{3}{4} + \frac{1}{4} = \square$	3 $\frac{5}{7} + \frac{3}{7} = \square$	4 $\frac{4}{11} + \frac{5}{11} = \square$
5 $4\frac{3}{16} + 3\frac{1}{16}$	6 $10\frac{4}{7} + 9\frac{1}{7}$	7 $6\frac{3}{5} + 4\frac{2}{5}$	8 $12\frac{1}{9} + 3\frac{4}{9}$
9 $\frac{5}{11} + \frac{2}{11} = \square$	10 $\frac{4}{7} + \frac{3}{7} + \frac{2}{7} = \square$	11 $\frac{5}{9} + \frac{1}{9} + \frac{1}{9}$	12 $\frac{4}{7} + \frac{3}{7} + \frac{1}{7}$
13 $12\frac{3}{5} + 10\frac{1}{5}$	14 $14\frac{3}{7} + 10\frac{5}{7}$	15 $9\frac{3}{5} + 10\frac{1}{5} + 6\frac{1}{5}$	16 $15\frac{3}{11} + 16\frac{5}{11} + 9\frac{6}{11}$

Selected Answers:

06

7 . 06 . 03 . 02

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NAME CLASS DATE

ADDING FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Add.

1 $\frac{2}{3} + \frac{1}{4} = \square$	2 $\frac{1}{5} + \frac{1}{2} = \square$	3 $\frac{3}{4} + \frac{1}{3} = \square$	4 $\frac{5}{6} + \frac{1}{4} = \square$
5 $5\frac{2}{3} + 4\frac{1}{4}$	6 $8\frac{1}{5} + 9\frac{1}{2}$	7 $12\frac{3}{4} + 1\frac{1}{3}$	8 $4\frac{5}{6} + 6\frac{1}{4}$
9 $\frac{5}{7} + \frac{1}{2} = \square$	10 $\frac{2}{3} + \frac{4}{9} = \square$	11 $\frac{1}{5} + \frac{3}{10} + \frac{1}{2} = \square$	12 $\frac{1}{6} + \frac{5}{12} + \frac{2}{3} = \square$
13 $12\frac{5}{7} + 9\frac{1}{2}$	14 $14\frac{2}{3} + 6\frac{4}{9}$	15 $12\frac{1}{5} + 9\frac{3}{10} + 6\frac{1}{2}$	16 $2\frac{1}{6} + 4\frac{5}{12} + 6\frac{2}{3}$

Selected Answers:

06

7 .06 .03 .03

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NAME _____ CLASS _____ DATE _____

SUBTRACTING FRACTIONS WITH LIKE DENOMINATORS

Directions:

Subtract.

1 $\frac{4}{9} - \frac{1}{9} = \square$	2 $\frac{5}{7} - \frac{3}{7} = \square$	3 $\frac{4}{11} - \frac{4}{11} = \square$	4 $\frac{5}{13} - \frac{4}{13} = \square$
5 $10\frac{2}{5} - 9\frac{1}{5}$	6 $18\frac{4}{7} - 9\frac{4}{7}$	7 $10\frac{4}{9} - 2\frac{3}{9}$	8 $25\frac{4}{13} - 6\frac{2}{13}$
9 $\frac{11}{12} - \frac{10}{12} = \square$	10 $\frac{5}{8} - \frac{1}{8} = \square$	11 $\frac{3}{13} - \frac{2}{13}$	12 $\frac{4}{7} - \frac{3}{7}$
13 $12\frac{3}{7} - 9\frac{2}{7}$	14 $15\frac{4}{8} - 2\frac{2}{8}$	15 $13\frac{5}{12} - 10\frac{4}{12}$	16 $10\frac{2}{5} - 9\frac{1}{5}$

06

Selected Answers:

NAME _____ CLASS _____ DATE _____

SUBTRACTING FRACTIONS WITH UNLIKE DENOMINATORS

Directions:

Subtract.

1 $\frac{3}{4} - \frac{1}{2} = \square$	2 $\frac{4}{5} - \frac{1}{4} = \square$	3 $\frac{3}{4} - \frac{2}{3} = \square$	4 $\frac{5}{6} - \frac{3}{4} = \square$
5 $10\frac{3}{5} - 9\frac{1}{4}$	6 $12\frac{5}{7} - 9\frac{1}{2}$	7 $15\frac{5}{6} - 6\frac{1}{4}$	8 $25\frac{3}{8} - 9\frac{1}{16}$
9 $\frac{2}{3} - \frac{1}{5} = \square$	10 $\frac{5}{8} - \frac{1}{4} = \square$	11 $\frac{4}{11} - \frac{1}{12} = \square$	12 $\frac{9}{13} - \frac{4}{9} = \square$
13 $15\frac{2}{3} - 9\frac{1}{4}$	14 $18\frac{3}{5} - 9\frac{1}{2}$	15 $5\frac{3}{5} - 1\frac{1}{4}$	16 $12\frac{5}{11} - 9\frac{1}{12}$

06

Selected Answers:

7 . 06 . 03 . 05

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NAME _____ CLASS _____ DATE _____

SUBTRACTING MIXED FRACTIONS

Directions:

Subtract.

1 $12\frac{2}{5} - 6\frac{3}{5}$	2 $15\frac{2}{3} - 6\frac{3}{3}$	3 $14\frac{1}{6} - 9\frac{5}{6}$	4 $10\frac{3}{7} - 8\frac{5}{7}$
5 $15\frac{2}{3} - 9\frac{3}{4}$	6 $15\frac{1}{4} - 6\frac{1}{2}$	7 $18\frac{2}{5} - 9\frac{3}{4}$	8 $5\frac{4}{11} - 1\frac{9}{22}$
9 $16\frac{2}{3} - 8\frac{3}{4}$	10 $10\frac{5}{8} - 9\frac{11}{16}$	11 $14\frac{3}{8} - 8\frac{1}{2}$	12 $15\frac{3}{4} - 8\frac{9}{10}$
13 $14\frac{3}{11} - 8\frac{5}{13}$	14 $12\frac{3}{7} - 8\frac{12}{21}$	15 $15\frac{4}{5} - 9\frac{5}{6}$	16 $10\frac{1}{2} - 8\frac{5}{6}$

Selected Answers:

NAME _____ CLASS _____ DATE _____

SUBTRACTING FRACTIONS FROM WHOLE NUMBERS

Directions:

Subtract.

1 $10 - 2\frac{1}{5} = \square$	2 $9 - 8\frac{3}{8} = \square$	3 $12 - \frac{3}{5} = \square$	4 $18 - \frac{4}{11} = \square$
5 $15 - 8\frac{4}{9}$	6 $16 - \frac{4}{7}$	7 $6 - 2\frac{4}{7}$	8 $8 - \frac{5}{12}$
9 $12 - 4\frac{1}{11}$	10 $8 - 2\frac{3}{7}$	11 $6 - 5\frac{3}{5}$	12 $12 - 8\frac{3}{5}$
13 $10 - 8\frac{4}{9}$	14 $8 - \frac{3}{11}$	15 $12 - \frac{5}{6}$	16 $10 - 5\frac{4}{13}$

Selected Answers:

7.06.04

MULTIPLICATION AND DIVISION OF FRACTIONS

(standard, 7 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.04.01 compute the product of two fractions using the algorithm: $\frac{a}{b} \times \frac{c}{d} = \frac{axc}{bxd}$;

7.06.04.02 compute the product given mixed fractions and/or whole numbers;

7.06.04.03 compute the product in lowest terms given fractions, mixed fractions and whole numbers (cancellation suggested);

7.06.04.04 find the reciprocal of a fraction, mixed fraction or whole number;

7.06.04.05 compute the quotient of two fractions using the algorithm:

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{axd}{bxc};$$

7.06.04.06 compute the quotient in lowest terms given fractions, mixed fractions and/or whole numbers

06

NAME _____ CLASS _____ DATE _____

MULTIPLYING TWO FRACTIONS

Directions:

Multiply. Reduce to lowest terms.

1 $\frac{2}{3} \times \frac{5}{7} = \square$	2 $\frac{4}{11} \times \frac{5}{7} = \square$	3 $\frac{2}{13} \times \frac{1}{5} = \square$	4 $\frac{3}{5} \times \frac{2}{5} = \square$
5 $\frac{3}{5} \times \frac{5}{11} = \square$	6 $\frac{2}{3} \times \frac{3}{9} = \square$	7 $\frac{2}{3} \times \frac{3}{10} = \square$	8 $\frac{5}{1} \times \frac{6}{13} = \square$
9 $\frac{2}{15} \times \frac{5}{12} = \square$	10 $\frac{8}{3} \times \frac{4}{11} = \square$	11 $\frac{5}{7} \times \frac{6}{13} = \square$	12 $\frac{4}{11} \times \frac{11}{16} = \square$
13 $\frac{2}{3} \times \frac{9}{11} = \square$	14 $\frac{4}{15} \times \frac{7}{11} = \square$	15 $\frac{2}{5} \times \frac{3}{17} = \square$	16 $\frac{4}{9} \times \frac{2}{5} = \square$

Selected Answers:

NAME _____ CLASS _____ DATE _____

MULTIPLY MIXED FRACTIONS AND/OR WHOLE NUMBERS

Directions:

Multiply. Reduce to lowest terms.

1 $8 \times 2\frac{3}{7} = \square$	2 $6 \times 4\frac{1}{3} = \square$	3 $2\frac{1}{5} \times 5 = \square$	4 $12 \times 7\frac{1}{3} = \square$
5 $\frac{5}{6} \times 2\frac{1}{3} = \square$	6 $\frac{4}{9} \times 3\frac{1}{4} = \square$	7 $2\frac{2}{3} \times \frac{6}{11} = \square$	8 $5\frac{1}{6} \times \frac{7}{31} = \square$
9 $2\frac{1}{4} \times 2\frac{1}{4} = \square$	10 $5\frac{2}{3} \times 4\frac{1}{3} = \square$	11 $2\frac{3}{4} \times 5\frac{2}{5} = \square$	12 $5\frac{1}{2} \times 3\frac{1}{2} = \square$
13 $9\frac{2}{3} \times 3\frac{1}{4} = \square$	14 $14\frac{3}{4} \times 6\frac{1}{3} = \square$	15 $8\frac{3}{11} \times 4\frac{1}{6} = \square$	16 $7\frac{3}{4} \times 8\frac{4}{13} = \square$

Selected Answers:

7 . 06 . 04 . 03

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NAME CLASS DATE

FIND THE PRODUCT OF TWO FRACTIONS IN LOWEST TERMS

Directions:

Compute the product in lowest terms (cancellation suggested).

1 $\frac{3}{4} \times \frac{8}{9} =$ ☐	2 $\frac{5}{6} \times 12 =$ ☐	3 $\frac{5}{7} \times \frac{14}{3} =$ ☐	4 $15 \times \frac{3}{5} =$ ☐
5 $3\frac{1}{4} \times 8 =$ ☐	6 $9 \times 4\frac{2}{3} =$ ☐	7 $\frac{5}{11} \times \frac{11}{15} =$ ☐	8 $\frac{4}{9} \times \frac{18}{8} =$ ☐
9 $2\frac{1}{3} \times 1\frac{1}{5} =$ ☐	10 $1\frac{5}{9} \times 2\frac{4}{7} =$ ☐	11 $6\frac{1}{3} \times 1\frac{1}{5} =$ ☐	12 $2\frac{3}{7} \times 4\frac{2}{3} =$ ☐
13 $1\frac{1}{9} \times 1\frac{4}{5} =$ ☐	14 $4\frac{2}{7} \times 2\frac{4}{5} =$ ☐	15 $18\frac{3}{4} \times 1\frac{1}{2} =$ ☐	16 $2\frac{2}{11} \times 4\frac{2}{5} =$ ☐

Selected Answers:

06

NAME _____ CLASS _____ DATE _____

FINDING RECIPROCALS

Directions:

Find the reciprocal.

1 5	2 $\frac{2}{3}$	3 $\frac{7}{4}$	4 $2\frac{1}{3}$	5 $15\frac{1}{3}$
6 12	7 $\frac{3}{7}$	8 $\frac{8}{5}$	9 $4\frac{1}{7}$	10 $12\frac{3}{7}$
11 6	12 $\frac{4}{5}$	13 $\frac{12}{4}$	14 $9\frac{2}{3}$	15 $12\frac{1}{5}$
16 9	17 $\frac{5}{6}$	18 $\frac{15}{3}$	19 $12\frac{2}{5}$	20 $20\frac{1}{3}$
21 25	22 $\frac{7}{8}$	23 $\frac{19}{7}$	24 $10\frac{3}{5}$	25 $7\frac{1}{4}$

Selected Answers:

7 . 06 . 04 . 05

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NAME CLASS DATE

DIVIDE TWO FRACTIONS

Directions:

Divide.

1 $\frac{3}{5} \div \frac{1}{4} = \square$	2 $\frac{2}{5} \div \frac{5}{2} = \square$	3 $\frac{4}{9} \div \frac{7}{8} = \square$	4 $\frac{1}{11} \div \frac{2}{5} = \square$
5 $\frac{5}{9} \div \frac{2}{7} = \square$	6 $\frac{2}{11} \div \frac{7}{12} = \square$	7 $\frac{2}{9} \div \frac{3}{5} = \square$	8 $\frac{5}{12} \div \frac{3}{5} = \square$
9 $\frac{8}{9} \div \frac{3}{4} = \square$	10 $\frac{12}{11} \div \frac{5}{13} = \square$	11 $\frac{5}{17} \div \frac{6}{11} = \square$	12 $\frac{1}{10} \div \frac{6}{7} = \square$
13 $\frac{8}{9} \div \frac{9}{8} = \square$	14 $\frac{15}{17} \div \frac{4}{9} = \square$	15 $\frac{12}{13} \div \frac{5}{7} = \square$	16 $\frac{1}{4} \div \frac{19}{3} = \square$

Selected Answers:

7 . 06 . 04 . 06

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NAME CLASS DATE

FIND THE QUOTIENT OF TWO FRACTIONS IN LOWEST TERMS

Directions:

Compute the quotient in lowest terms.

1 $2\frac{1}{2} \div 5 =$ ☐	2 $5 \div 2\frac{1}{2} =$ ☐	3 $6 \div 1\frac{1}{4} =$ ☐	4 $1\frac{1}{4} \div 6 =$ ☐
5 $\frac{3}{4} \div 1\frac{3}{8} =$ ☐	6 $2\frac{1}{7} \div \frac{5}{7} =$ ☐	7 $\frac{3}{8} \div 1\frac{3}{16} =$ ☐	8 $\frac{2}{3} \div 1\frac{4}{11} =$ ☐
9 $2\frac{1}{5} \div 1\frac{3}{10} =$ ☐	10 $1\frac{5}{12} \div 1\frac{3}{5} =$ ☐	11 $4\frac{1}{4} \div 5\frac{1}{2} =$ ☐	12 $4\frac{3}{4} \div 8\frac{1}{2} =$ ☐
13 $7\frac{1}{2} \div 1\frac{5}{6} =$ ☐	14 $1\frac{5}{6} \div 7\frac{1}{2} =$ ☐	15 $1\frac{1}{5} \div 2\frac{2}{5} =$ ☐	16 $2\frac{3}{4} \div 4\frac{1}{3} =$ ☐

Selected Answers:

7.06.05

VERBAL PROBLEMS INVOLVING FRACTIONS

(standard, 4 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.05.01	solve a verbal problem involving fractions in one operation;
7.06.05.02	solve a verbal problem involving fractions in one operation where a chart must be referred to.

7. 06. 05. 01

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NAME CLASS DATE

SOLVE A WORD PROBLEM WITH FRACTIONS

Directions:

Solve each word problem.

1	Kay is $63\frac{1}{2}$ inches tall. Mary is $55\frac{3}{4}$ inches tall. How much taller is Kay than Mary?
2	Jerry worked $3\frac{1}{2}$ hours one day and $1\frac{1}{4}$ hours the next. How many hours did he work in all?
3	Ribbon costs 24 cents a yard. How much will $5\frac{1}{2}$ yards cost?
4	On full recipe of cookies calls for $1\frac{3}{4}$ cups of flour. How much flour would be needed for 4 full recipes?
5	To get to school, Ruth walks $2\frac{3}{4}$ blocks and rides the bus $18\frac{1}{2}$ blocks. How many blocks does Ruth travel going to school?
6	Jan has 9 inches of ribbon. How many $\frac{3}{4}$-inch pieces can she get from her ribbon?

Selected Answers:

CONTINUED

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.06 .05 .01

NAME CLASS DATE

SOLVE A WORD PROBLEM WITH FRACTIONS

Directions:

Solve each word problem.

1	Terry has read $\frac{2}{3}$ of a 291 page library book. How many pages has she read?
2	Carolyn baked $3\frac{1}{2}$ dozen cookies. How many cookies is that?
3	A $1\frac{1}{2}$ pound bar of candy was divided equally among 4 boys. What part of a pound did each boy receive?
4	It took 4 girl scouts $\frac{3}{4}$ hours to row across a lake and $1\frac{1}{2}$ hours to row back. How many hours was the trip?
5	A board is $12\frac{1}{2}$ inches long. How much should be cut from the board to get a board 10 inches long?
6	Mary practices the guitar $\frac{3}{4}$ of an hour each day. She practices $\frac{1}{3}$ of an hour before school. What fraction of an hour does she practice after school?

Selected Answers:

NAME _____ CLASS _____ DATE _____

SOLVE A WORD PROBLEM

Directions:

Solve each word problem using the chart provided.

1

CITY	ANNUAL RAINFALL
NEW YORK	$24\frac{1}{2}$ in.
LOS ANGELES	$10\frac{1}{4}$ in.
BOSTON	15 in.
DETROIT	$29\frac{3}{4}$ in.

a) How much more rain fell in New York than in Boston?
b) How much rain fell in both New York and Detroit?
c) The following year only $\frac{2}{3}$ the amount of rain fell on Boston. How much rain fell on Boston?
d) How many times greater was the amount of rain which fell on New York than on Los Angeles?

2

YOGURT	OUNCES OF FRUIT USED IN 1 EIGHT OUNCE CONTAINER
CHERRY	$2\frac{1}{2}$ oz.
PEACH	1 oz.
BLUEBERRY	$2\frac{1}{4}$ oz.
STRAWBERRY	$1\frac{1}{2}$ oz.

a) How much more fruit is contained in cherry yogurt than in blueberry yogurt?
b) How much fruit can be found in 3 eight ounce containers of cherry yogurt?
c) How many times greater is the amount of fruit used in the blueberry yogort than in the strawberry yogurt?

Selected Answers:

7.06.06

ADVANCED FRACTIONAL COMPUTATIONS AND CONCEPTS

(advanced, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.06.06.01	combine three or more fractions involving addition and/or subtraction;
7.06.06.02	find the average of two or more fractions;
*7.06.06.03	determine that between any two different fractions there is another fraction;
*7.06.06.04	know that the set of fractions is dense;
7.06.06.05	raise a fraction to an indicated power;
7.06.06.06	simplify a complex fraction.

06

* This I. O. is not tested on an ISS test.

NAME _____ CLASS _____ DATE _____

COMBINE THREE OR MORE FRACTIONS

Directions:

Combine.

1 $1\frac{2}{3}+3\frac{1}{4}+6\frac{2}{5}=\square$	7 $\frac{2}{9}+5\frac{3}{4}-1\frac{1}{2}=\square$
2 $4+9\frac{1}{4}+8\frac{5}{6}=\square$	8 $\frac{5}{7}-\frac{1}{3}+8\frac{1}{4}=\square$
3 $8+3\frac{3}{4}-6\frac{1}{5}=\square$	9 $\frac{5}{9}-\frac{1}{3}-\frac{1}{4}=\square$
4 $6\frac{2}{5}+9\frac{1}{6}-4\frac{3}{4}=\square$	10 $18\frac{2}{3}+9\frac{7}{10}-8\frac{3}{4}=\square$
5 $12-11\frac{3}{4}+9\frac{2}{3}=\square$	11 $\frac{6}{7}+\frac{7}{8}+\frac{8}{9}=\square$
6 $5\frac{3}{5}-4\frac{2}{3}-\frac{1}{4}=\square$	12 $\frac{8}{9}-\frac{6}{7}+\frac{7}{8}=\square$

Selected Answers:

7	06	06	02
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NAME _____ CLASS _____ DATE _____

FIND THE AVERAGE OF TWO OR MORE FRACTIONS

Directions:

Find the average.

1 $\frac{3}{4}$ and $\frac{1}{2}$	2 $2\frac{2}{3}$ and $3\frac{1}{4}$	3 $\frac{1}{9}$, $\frac{1}{16}$, and $\frac{1}{12}$
4 $8\frac{1}{3}$, $4\frac{1}{4}$, and $6\frac{2}{3}$	5 2, 4, and $6\frac{1}{4}$	6 $\frac{1}{4}$, $4\frac{1}{7}$, and $8\frac{1}{7}$
7 6, $6\frac{2}{3}$, $6\frac{1}{4}$, and $\frac{1}{2}$	8 $5\frac{1}{4}$, $8\frac{2}{3}$, and $9\frac{4}{9}$	9 $1\frac{1}{2}$, $3\frac{2}{3}$, and $9\frac{1}{6}$

06

Selected Answers:

7 . 06 . 06 . 05

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NAME CLASS DATE

RAISE A FRACTION TO A POWER

Directions:

Raise to the indicated power.

1 $\left(\frac{3}{4}\right)^2$	2 $\left(\frac{5}{9}\right)^2$	3 $\left(1\frac{1}{2}\right)^2$	4 $\left(2\frac{1}{4}\right)^2$
5 $\left(3\frac{1}{5}\right)^2$	6 $\left(4\frac{1}{4}\right)^2$	7 $\left(\frac{3}{5}\right)^3$	8 $\left(\frac{2}{3}\right)^3$
9 $\left(1\frac{1}{4}\right)^3$	10 $\left(5\frac{1}{6}\right)^2$	11 $\left(1\frac{1}{3}\right)^3$	12 $\left(2\frac{1}{3}\right)^2$
13 $\left(2\frac{2}{3}\right)^3$	14 $\left(4\frac{1}{2}\right)^2$	15 $\left(5\frac{1}{3}\right)^3$	16 $\left(6\frac{1}{4}\right)^3$

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Selected Answers:

7 . 06 . 06 . 06

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NAME CLASS DATE

SIMPLIFY A COMPLEX FRACTION

Directions:

Write each complex fraction in simplest form.

1 $\frac{\frac{1}{7}}{\frac{1}{2}}$	2 $\frac{\frac{1}{2}}{\frac{1}{4}}$	3 $\frac{\frac{2}{3}}{\frac{1}{5}}$	4 $\frac{1\frac{1}{2}}{3\frac{1}{7}}$
5 $\frac{\frac{1}{5}}{5}$	6 $\frac{5}{\frac{1}{5}}$	7 $\frac{1\frac{3}{4}}{\frac{2}{3}}$	8 $\frac{2\frac{1}{7}}{2\frac{1}{3}}$
9 $\frac{\frac{5}{9}}{\frac{1}{3}}$	10 $\frac{4\frac{1}{2}}{6\frac{1}{2}}$	11 $\frac{7\frac{3}{4}}{5\frac{3}{8}}$	12 $\frac{9\frac{7}{10}}{\frac{3}{5}}$
13 $\frac{\frac{2}{3}+\frac{1}{3}}{4}$	14 $\frac{\frac{2}{3}-\frac{1}{7}}{\frac{3}{7}}$	15 $\frac{\frac{5}{9}-\frac{1}{3}}{\frac{3}{7}}$	16 $\frac{\frac{5}{6}-\frac{1}{2}}{2\frac{1}{2}}$

Selected Answers:

TOPIC 7

DECIMALS

7.07.01	Money Relationships	(minimal, 8 days)
7.07.02	Money Computations	(minimal, 6 days)
7.07.03	Verbal Problems Involving Money	(minimal, 4 days)
7.07.04	Simple Percent	(minimal, 6 days)
7.07.05	Verbal Problems Involving Percent	(minimal, 5 days)
7.07.06	Decimal Relationships	(standard, 10 days)
7.07.07	Addition and Subtraction of Decimals	(standard, 5 days)
7.07.08	Multiplication and Division of Decimals	(standard, 9 days)
7.07.09	Verbal Problems Involving Decimals	(standard, 4 days)
7.07.10	Basic Percent	(standard, 8 days)
7.07.11	Verbal Problems Involving Rate, Discount and Commission	(standard, 7 days)
7.07.12	Fractional and Decimal Percent	(advanced, 11 days)

07

7.07.01

MONEY RELATIONSHIPS

(minimal, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.01.01	convert to cents "pictures" of coins of various denominations;
7.07.01.02	convert to cents a "number" of coins of various denominations;
7.07.01.03	convert to coins of various denominations in pictures a number of cents;
7.07.01.04	convert to a "number" of coins of various denominations an amount of money in cents;
7.07.01.05	determine which set of coins has the greatest or least value;
7.07.01.06	convert from the "¢" symbol to decimal notation;
7.07.01.07	convert from decimal notation to "¢";
7.07.01.08	convert whole dollars to decimal notation.

7 · 07 · 01 · 01

NAME _____ CLASS _____ DATE _____

CHANGE PICTURES OF COINS TO CENTS

Directions:

Write the value in cents (¢).

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

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7 . 07 . 01 . 02

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NAME _____ CLASS _____ DATE _____

CHANGE A "NUMBER" OF COINS TO CENTS

Directions:

Write in cents (¢).

1 1 dime + 4 pennies _____	7 3 Quarters + 4 dimes + 2 nickels _____
2 3 dimes + 2 nickels _____	8 4 Quarters + 1 nickel + 1 penny _____
3 2 dimes + 1 nickel + 4 pennies _____	9 6 nickels + 12 pennies _____
4 1 QUARTER + 1 nickel + 1 penny _____	10 8 dimes + 3 nickels + 2 pennies _____
5 2 Quarters + 3 nickels + 2 pennies _____	11 1 Quarter + 2 dimes + 7 pennies _____
6 4 dimes + 1 nickel + 4 pennies _____	12 8 Quarters + 4 dimes + 6 nickels _____

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7 . 07 . 01 . 04

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NAME _____ CLASS _____ DATE _____

CHANGE CENTS TO A "NUMBER" OF COINS

Directions:

Fill in the boxes.

1 13¢ = 1 dime + ☐ pennies	7 58¢ = ☐ quarters + ☐ dimes + ☐ pennies
2 28¢ = ☐ Quarters + 3 pennies	8 75¢ = ☐ dimes + ☐ pennies
3 15¢ = ☐ dimes + ☐ nickels	9 49¢ = ☐ dimes + ☐ nickels + ☐ pennies
4 30¢ = ☐ Quarters + ☐ nickels	10 136¢ = ☐ quarters + ☐ dimes + ☐ pennies
5 45¢ = ☐ Quarters + ☐ dimes + ☐ nickels	11 147¢ = ☐ half dollars + ☐ quarters + ☐ dimes + ☐ pennies
6 55¢ = ☐ quarters + ☐ dimes + ☐ nickels	12 151¢ = ☐ half dollars + ☐ pennies

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7 . 07 . 01 . 05

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NAME _____ CLASS _____ DATE _____

COMPARING COINS OF DIFFERENT VALUE

Directions:

(1-6) In each box circle the group with the greatest value.
(7-12) In each box circle the group with the smallest value.

1	1 Quarter, 1 dime, and 1 penny 2 Quarters 3 dimes and 1 nickel
2	2 dimes, 2 nickels, and 1 penny 1 Quarter 5 nickels and 2 pennies
3	2 Quarters and 1 penny 4 dimes, 2 nickels 1 Quarter, 1 nickel, and 1 penny
4	6 dimes, 1 nickel, and 1 penny 3 Quarters and 1 penny 8 nickels and 2 pennies
5	1 half dollar and 2 dimes 3 Quarters 4 dimes, 4 nickels, and 5 pennies
6	4 Quarters, 3 dimes, and 2 nickels 2 half dollars, 1 quarter, and 4 nickels 5 Quarters, 2 nickels, and 4 pennies
7	4 nickels, and 2 pennies 2 dimes, and 1 nickel 1 Quarter
8	3 dimes, 1 nickel, and 1 penny 1 Quarter and 1 nickel 1 half dollar
9	2 Quarters, 2 dimes, and 1 penny 1 half dollar and 5 nickels 7 dimes, 1 nickel, and 2 pennies
10	3 Quarters, 3 dimes, and 3 pennies 1 half dollar, 3 dimes, and 3 pennies 9 dimes and 4 pennies
11	5 dimes and 6 pennies 2 Quarters and 1 dime 10 nickels
12	2 Quarters, 5 dimes, and 1 penny 1 dollar 3 Quarters, 4 nickels, and 2 pennies

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7 · 07 · 01 · 06

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NAME CLASS DATE

CHANGE FROM THE CENTS SIGN TO DECIMAL FORM

Directions:

Change from ¢ to $.

1 46¢	2 8¢	3 19¢	4 73¢
5 1¢	6 81¢	7 99¢	8 9¢
9 100¢	10 125¢	11 146¢	12 200¢
13 250¢	14 269¢	15 201¢	16 400¢

07

7 . 07 . 01 . 07

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NAME CLASS DATE

CHANGE FROM DECIMAL FORM TO THE CENTS SIGN

Directions:

Change from $ to ¢.

1 $.25	2 $.36	3 $.46	4 $.50
5 $.06	6 $.09	7 $.01	8 $.99
9 $1.25	10 $1.36	11 $2.02	12 $2.10
13 $3.00	14 $4.00	15 $4.25	16 $4.09

07

7 .07 .01 .08
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NAME _____ CLASS _____ DATE _____

CHANGE DOLLARS FOR THE DECIMAL FORM

Directions:

Write each amount of money with a decimal point.
(ex. $15 = $15.00)

1 $7 = _____	2 $18 = _____	3 $1 = _____	4 $5 = _____
5 $6 = _____	6 $100 = _____	7 $59 = _____	8 $86 = _____
9 $125 = _____	10 $402 = _____	11 $369 = _____	12 $40 = _____
13 $106 = _____	14 $99 = _____	15 $182 = _____	16 $199 = _____

07

7.07.02

MONEY COMPUTATION

(minimal, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.02.01	compute the sum of given amounts of money given in "¢" notation;
7.07.02.02	compute the sum of given amounts of money in decimal notation;
7.07.02.03	compute the difference of given amounts of money given in "¢" notation;
7.07.02.04	compute the difference of given amounts of money given in decimal notation;
7.07.02.05	compute the product of given amounts of money and a whole number;
7.07.02.06	compute the quotient of given amounts of money and a whole number.

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NAME _____ CLASS _____ DATE _____

ADD MONEY IN CENT FORM

Directions:

Add.

1

a) 56¢ + 25¢ + 43¢ + 25¢ = _____

b) 23¢ + 15¢ + 24¢ + 83¢ = _____

c) 125¢ + 86¢ + 23¢ + 136¢ + 52¢ = _____

2

a) 256¢ + 86¢ + 23¢ + 142¢ = _____

b) 158¢ + 246¢ + 83¢ + 29¢ = _____

c) 24¢ + 156¢ + 21¢ + 80¢ + 147¢ = _____

3

a) 56¢ + 28¢ + 42¢ = _____

b) 125¢ + 46¢ + 90¢ = _____

c) 205¢ + 82¢ + 49¢ = _____

4

a) 36¢ + 25¢ + 96¢ + 24¢ = _____

b) 90¢ + 69¢ + 12¢ + 41¢ = _____

c) 82¢ + 41¢ + 80¢ + 57¢ = _____

5

a) 146¢ + 89¢ + 105¢ + 89¢ = _____

b) 156¢ + 242¢ + 83¢ + 40¢ = _____

c) 25¢ + 89¢ + 426¢ + 121¢ = _____

6

a) 8¢ + 146¢ + 12¢ + 25¢ = _____

b) 205¢ + 499¢ + 12¢ + 8¢ = _____

c) 83¢ + 42¢ + 8¢ + 419¢ = _____

07

Selected Answers:

7 ·07 · 02 · 02

NAME _____ CLASS _____ DATE _____

ADD MONEY IN DECIMAL FORM

Directions:

Add.

1

a) $1.25 + .86 + .25 + .43 =

b) $52.46 + 1.43 + 8.50 + 9.25 =

2

a) $.53 + .49 + .20 + .43 =

b) $12.56 + 102.43 + 81.05 + 6.25 =

3

a) $12.40 + 6.24 + .56 + .40 =

b) $40.42 + 1.56 + 26.41 + 18.09 =

4

a) $.42 + $.56 + $.93 =

b) $1.25 + $10.47 + $.35 =

5

a) $10.25 + $9.46 + $18.40 =

b) $125.37 + $82.47 + $102.43 =

6

a) $47.25 + $18.36 + $29.42 =

b) $102.49 + $62.54 + $.57 =

Selected Answers:

7 . 07 . 02 . 03

NAME _____ CLASS _____ DATE _____

SUBTRACT MONEY IN CENT FORM

Directions:

Subtract.

1

a) 56¢ - 25¢ =

b) 42¢ - 26¢ =

c) 89¢ - 43¢ =

d) 57¢ - 23¢ =

2

a) 70¢ - 26¢ =

b) 80¢ - 43¢ =

c) 90¢ - 36¢ =

d) 60¢ - 35¢ =

3

a) 125¢ - 46¢ =

b) 156¢ - 149¢ =

c) 204¢ - 136¢ =

d) 109¢ - 100¢ =

4

a) 46¢ − 25¢ = _____

b) 48¢ − 36¢ = _____

c) 52¢ − 39¢ = _____

d) 36¢ − 28¢ = _____

5

a) 50¢ − 28¢ = _____

b) 90¢ − 36¢ = _____

c) 200¢ − 83 = _____

d) 300¢ − 156 = _____

6

a) 486¢ − 292¢ = _____

b) 506¢ − 158¢ = _____

c) 291¢ − 6¢ = _____

d) 158¢ − 89¢ = _____

Selected Answers:

7 ·07 ·02 ·04

NAME CLASS DATE

SUBTRACT MONEY IN DECIMAL FORM

Directions:

Subtract.

1

a) $48.25 − 9.01

b) $168.36 − 12.03

c) $25.36 − 10.14

d) $156.24 − 24.13

2

a) $25.43 − 10.82

b) $15.93 − 3.09

c) $149.37 − 82.16

d) $347.23 − 108.12

3

a) $56.25 − 8.06

b) $125.09 − 16.18

c) $46.14 − 18.06

d) 225.43 − 18.06

4

a) $46.25 − $22.14 =

b) $109.58 − $100.58 =

5

a) $56.25 − $23.83 =

b) $49.43 − $26.85 =

6

a) $256.24 − $129.82 =

b) $109.43 − $56.28 =

07

Selected Answers:

7 ·07 ·02 ·05

NAME _____ CLASS _____ DATE _____

MULTIPLY MONEY BY WHOLE NUMBERS

Directions:

Multiply.

1 $56¢ \times 8$	2 $42¢ \times 9$	3 $125¢ \times 7$	4 $236¢ \times 5$
5 $\$25.42 \times 3$	6 $\$1.47 \times 8$	7 $\$15.36 \times 3$	8 $\$40.25 \times 5$
9 $36¢ \times 22$	10 $40¢ \times 32$	11 $52¢ \times 16$	12 $32¢ \times 29$
13 $\$4.22 \times 21$	14 $\$5.02 \times 13$	15 $\$4.93 \times 24$	16 $\$5.23 \times 20$

07

Selected Answers:

7.07.03

VERBAL PROBLEMS INVOLVING MONEY

(minimal, 4 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.03.01	solve a verbal problem involving money and one operation.

7 .07 .03 .01

NAME CLASS DATE

WORD PROBLEMS INVOLVING MONEY AND ONE OPERATION

Directions:

Solve each word problem.

1	Tony bought a baseball glove for $20.50, a baseball uniform for $30.00, a pair of sweat socks for $.69, and a pair of spikes for $15.23. How much did Tony spend?
2	Tom earns $50.25 each week delivering newspapers. How much does he earn in six weeks?
3	Mary spent $25.63 in the supermarket. She gave the clerk a $50.00 bill. How much change did she receive?
4	Oranges are selling 8 for 64¢. How much does each orange cost?
5	In a candy store a pencil costs $.05. How many pencils can Bob buy for $.40?
6	Jose is saving to buy a calculator. He has saved $10.50. The calculator costs $20.70. How much more money does Jose have to save?

Selected Answers:

7.07.04

SIMPLE PERCENT

(minimal, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.04.01	recognize the uses of percent as it applies to sales tax, interest, and discounts;
7.07.04.02	understand the concept of percent (%) as a comparison to 100 by use of a diagram;
7.07.04.03	convert a whole number percent to a fraction whose denominator is 100;
7.07.04.04	convert a whole number percent to decimal notation;
7.07.04.05	place the decimal point two places to the left in the product when whole dollars are multiplied by whole number percents;
7.07.04.06	compute the product of whole dollars by whole number percents.

7 . 07 . 04 . 01

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NAME _____ CLASS _____ DATE _____

RECOGNIZE THE USES OF PERCENT

Directions:

Circle each area where percents are used.
For each area circled write a percent that goes with the area.

1

WALKING reading SALES TAX SLEEPING

ADDING NUMBERS rate of interest

rate of discount EATING LUNCH test mark

2

_____ ____ %

_____ ____ %

_____ ____ %

_____ ____ %

07

Selected Answers:

7 .07 .04 .02

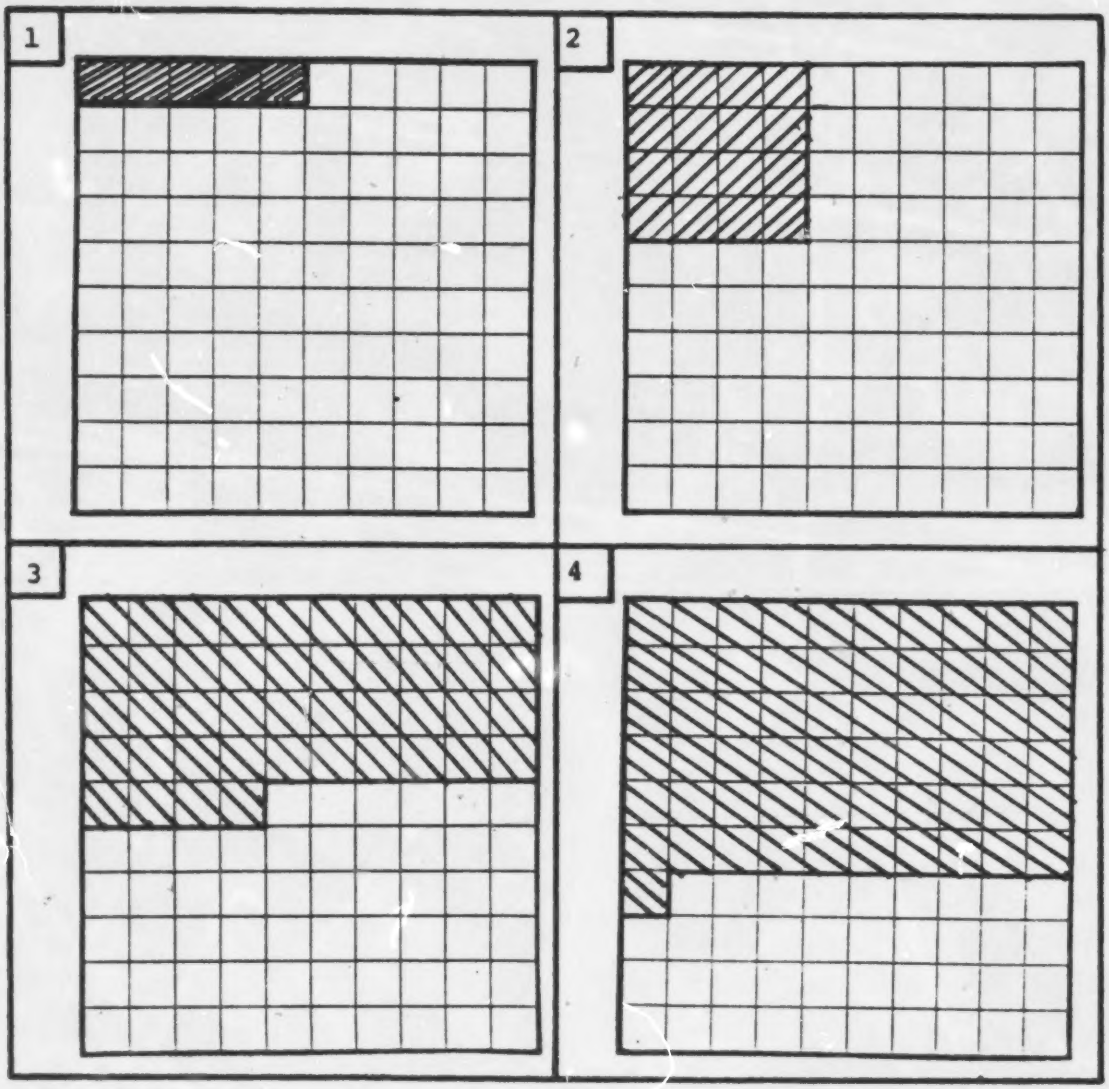
. . .

NAME CLASS DATE

UNDERSTAND CONCEPT OF PERCENT AS A COMPARISON TO 100

Directions:

What percent of the boxes are shaded?



07

Selected Answers:

NAME _____ CLASS _____ DATE _____

CHANGE A WHOLE NUMBER PERCENT TO A FRACTION

Directions:

Write each percent as a fraction.

1 $13\% = ____$	2 $17\% = ____$	3 $29\% = ____$	4 $21\% = ____$
5 $50\% = ____$	6 $49\% = ____$	7 $87\% = ____$	8 $53\% = ____$
9 $87\% = ____$	10 $89\% = ____$	11 $99\% = ____$	12 $114\% = ____$
13 $151\% = ____$	14 $117\% = ____$	15 $225\% = ____$	16 $379\% = ____$

07

Selected Answers:

7 . 07 . 04 . 04

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NAME _____ CLASS _____ DATE _____

CHANGE A WHOLE NUMBER PERCENT TO DECIMAL NOTATION

Directions:

Write each percent as a decimal.

1 $13\% =$ _____	2 $17\% =$ _____	3 $19\% =$ _____	4 $5\% =$ _____
5 $1\% =$ _____	6 $73\% =$ _____	7 $69\% =$ _____	8 $57\% =$ _____
9 $125\% =$ _____	10 $177\% =$ _____	11 $37\% =$ _____	12 $43\% =$ _____
13 $71\% =$ _____	14 $237\% =$ _____	15 $357\% =$ _____	16 $110\% =$ _____

07

Selected Answers:

7 . 07 . 04 . 05

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NAME _____ CLASS _____ DATE _____

LOCATING DECIMAL POINT IN PRODUCTS

Directions:

Place the decimal point to give the correct answer.

1 12% $\times \$6$ 72	2 15% $\times \$8$ 120	3 23% $\times \$4$ 92	4 32% $\times \$5$ 160
5 15% $\times \$13$ 45 15 195	6 25% $\times \$15$ 125 25 375	7 35% $\times \$19$ 315 35 665	8 55% $\times \$23$ 165 110 1265
9 $\$136$ $\times 5\%$ 680	10 $\$121$ $\times 7\%$ 847	11 $\$421$ $\times 2\%$ 842	12 $\$102$ $\times 3\%$ 306
13 12% $\times \$7$ 84	14 125% $\times \$3$ 375	15 200% $\times \$4$ 800	16 250% $\times \$9$ 2250

Selected Answers:

7 . 07 . 04 . 06

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NAME CLASS DATE

COMPUTE THE PRODUCT OF DOLLARS MULTIPLIED BY WHOLE PERCENTS

Directions:

Multiply.

1 $15 x 6% =	2 $24 x 9% =	3 $23 x 5% =	4 $10 x 3% =
5 $125 x 3% =	6 $239 x 9% =	7 $105 x 7% =	8 $125 x 5% =
9 $15 x 12% =	10 $17 x 13% =	11 $25 x 41% =	12 $37 x 50% =
13 100% x $14 =	14 125% x $25 =	15 211% x $22 =	16 156% x $11 =

Selected Answers:

07

7.07.05

VERBAL PROBLEMS INVOLVING PERCENT

(minimal, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.05.01	solve a verbal problem involving finding the percent of a number.

7.07.06

DECIMAL RELATIONSHIPS

(standard, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

*7.07.06.01	extend the base 10 place value chart to include fractions whose denominators are powers of 10;
7.07.06.02	identify the place value of a given digit in a decimal numeral as a fraction;
7.07.06.03	identify the value of a given digit in a decimal numeral as a fraction;
7.07.06.04	read and write decimal numerals;
7.07.06.05	write as a decimal numeral a given fraction whose denominator is a power of ten;
7.07.06.06	write as a decimal numeral a given fraction whose denominator is a factor of 100;

07

*This I.O. is not tested on an I.S.S. Test

continued ...

7.07.06.02

7.07.06.03

NAME _____ CLASS _____ DATE _____

IDENTIFY THE PLACE VALUE OF A GIVEN DIGIT IN A DECIMAL

Directions:

Write the place value of the circled digit.
Write the value of the circled digit.

1 .⑤6	2 .2③9	3 .0436	4 .213②4
5 .1③65	6 .00②4	7 .10365	8 .1④62
9 .③6	10 .1024③	11 .025	12 .593
13 .192④	14 .999⑨	15 .56	16 .00247

07

Selected Answers:

7 .07 .06 .04

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NAME CLASS DATE

READ AND WRITE DECIMAL NUMERALS

Directions:

(1-6) Write the word name.
(7-12) Write the decimal numeral.

1 .56	7 Five and six tenths
2 .4897	8 Four hundred thirty six ten thousandths
3 5.06	9 Five hundred twenty one thousandths
4 14.037	10 Seventeen and twenty one hundredths
5 .2309	11 Fifteen thousandths
6 .0018	12 Twelve and nine thousand ten thousandths

07

Selected Answers:

NAME _____ CLASS _____ DATE _____

CHANGE DENOMINATORS THAT ARE POWERS OF 10 INTO DECIMALS

Directions:

Write as a decimal.

1 $\frac{46}{100}$	2 $\frac{5}{10}$	3 $\frac{7}{100}$	4 $\frac{7}{1000}$
5 $\frac{537}{1000}$	6 $\frac{4289}{10,000}$	7 $\frac{563}{10,000}$	8 $\frac{56}{10,000}$
9 $8\frac{7}{10}$	10 $9\frac{15}{100}$	11 $12\frac{425}{1000}$	12 $7\frac{1924}{10,000}$
13 $\frac{19}{1000}$	14 $\frac{19}{10,000}$	15 $\frac{19}{100,000}$	16 $\frac{7}{10,000}$

Selected Answers:

7 . 07 . 06 . 06

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NAME _____ CLASS _____ DATE _____

CHANGE DENOMINATORS OF FACTORS OF 100 INTO DECIMALS

Directions:

Write as a decimal.

1 $\frac{4}{5}$	2 $\frac{7}{20}$	3 $\frac{9}{50}$	4 $\frac{2}{5}$
5 $\frac{7}{25}$	6 $\frac{11}{25}$	7 $\frac{1}{4}$	8 $\frac{3}{4}$
9 $9\frac{3}{5}$	10 $12\frac{9}{20}$	11 $18\frac{1}{50}$	12 $7\frac{3}{5}$
13 $12\frac{7}{25}$	14 $13\frac{9}{25}$	15 $5\frac{1}{4}$	16 $10\frac{3}{4}$

07

Selected Answers:

7.07.06.07	write a given decimal numeral as a fraction whose denominator is a power of 10,
7.07.06.08	write a given decimal numeral as a fraction in lowest terms,
7.07.06.09	determine whether two given decimal numerals are equivalent;
7.07.06.10	compare two given decimal numerals;
7.07.06.11	round off a given decimal numeral to a specified place.

7 . 07 . 06 . 07

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NAME CLASS DATE

CHANGE DECIMALS INTO FRACTIONS

Directions:

Write as fractions.

1 .3	2 .47	3 .9	4 .2461
5 .941	6 .03	7 .1567	8 .0039
9 .1369	10 .0369	11 .0007	12 .15637
13 6.27	14 8.079	15 12.107	16 15.1371

Selected Answers:

7 . 07 . 06 . 08

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NAME CLASS DATE

WRITE DECIMALS AS FRACTIONS USING LOWEST TERMS

Directions:

Write as fractions or mixed fractions in lowest terms.

1 .5	2 .25	3 .6	4 .38
5 .2	6 .50	7 .56	8 .525
9 .45	10 .06	11 .006	12 .5245
13 18.8	14 5.02	15 12.002	16 15.125

07

Selected Answers:

7 . 07 . 06 . 09

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NAME CLASS DATE

DETERMINE IF TWO DECIMALS ARE EQUIVALENT

Directions:

(1-8) Write each decimal as an equivalent decimal with 2 decimal places.
(9-16) Write each decimal as an equivalent decimal with 3 decimal places.

1 .5	2 .4	3 2.4	4 .720
5 .9600	6 5.860	7 7.2100	8 9.33000
9 .3	10 .49	11 8.2	12 9.51
13 8.6000	14 .7390	15 .59400	16 81.2

07

Selected Answers:

7.07.06.10

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NAME _____ CLASS _____ DATE _____

COMPARE DECIMALS

Directions:

Which symbol $<$, $>$, or $=$ when placed in the circle makes a true statement?

1 $.46 \bigcirc .52$	2 $.9 \bigcirc .7$	3 $.52 \bigcirc .48$	4 $.836 \bigcirc .902$
5 $.36 \bigcirc .52$	6 $.4 \bigcirc .32$	7 $.5 \bigcirc .500$	8 $.63 \bigcirc .6936$
9 $.06 \bigcirc .6$	10 $.06 \bigcirc .060$	11 $.86 \bigcirc .871$	12 $.002 \bigcirc .024$
13 $.373 \bigcirc .58$	14 $.2 \bigcirc .102$	15 $8.3 \bigcirc 6.1$	16 $5.2 \bigcirc 4.86$

Selected Answers:

07

7 . 07 . 06 . 11

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NAME CLASS DATE

ROUND OFF DECIMALS

Directions:

(1-8) Round to the nearest tenth.
(9-16) Round to the nearest thousandth.

1 .76	2 .43	3 .256	4 5.063
5 .0916	6 4.306	7 15.969	8 .0096
9 .2463	10 .0531	11 .4993	12 .2036
13 5.1203	14 .4399	15 .0562	16 6.1195

07

Selected Answers:

7.07.07

ADDITION AND SUBTRACTION OF DECIMALS

(standard, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.07.01	compute the sum of two or more decimal numerals arranged vertically;
7.07.07.02	compute the sum of two or more decimal numerals arranged horizontally;
7.07.07.03	compute the difference of two decimal numerals arranged vertically with the minuend having the same number or more decimal places than the subtrahend;
7.07.07.04	compute the difference of two decimal numerals arranged vertically with the minuend having less decimal places than the subtrahend;
7.07.07.05	compute the difference of two decimal numerals arranged horizontally.

07

NAME _____ CLASS _____ DATE _____

COMPUTE THE SUM OF TWO OR MORE DECIMALS

Directions:

Add.

1 .362 + .507 .936 .537	2 .12 + .59 .37 .49	3 2.57 4.63 + 12.91 8.06	4 14.372 6.511 + 8.303 16.209
5 .36 + .425 .71	6 .5 + .39 .021 .6	7 3.42 18.2 + 9.39	8 4.3 + 6.24 13.093
9 14.3 + 9.25 18.036	10 15.906 + 4.31 6.423 .41	11 .0211 .46 + .512 .3	12 2.9 4.136 + .249 3.69
13 125.63 + 4.24 16.1 130.62	14 4.06 + 18.37 .4 20.426	15 .843 .49 .3 .8621	16 4.006 13.24 9.99

Selected Answers:

07

7	.07	.07	.02
	.	.	.

NAME _____ CLASS _____ DATE _____

ARRANGE AND COMPUTE SUMS

Directions:

Compute the sum.

1 $5.6+8.3+9.2+1.3=$	7 $1.362+12.5+.36=$
2 $.43+.56+.89+.04=$	8 $15.246+9.137+12.12=$
3 $5.3+11.2+9.25=$	9 $14.23+.02+6.4+11=$
4 $14.3+6.25+.136=$	10 $102.64+99.3+82.473=$
5 $6.25+9.1+11.524=$	11 $.0042+.036+.24+1=$
6 $15+6.2+.03=$	12 $2.462+102.4+11.5=$

07

7 .07 .07 .03

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NAME CLASS DATE

FIND THE DIFFERENCE BETWEEN TWO DECIMALS

Directions:

Compute the difference.

1 .463 − .062	2 5.24 − 1.02	3 16.24 − 8.6	4 .892 − .104
5 .5263 − 0806	6 .4361 − .04	7 12.36 − 6.03	8 15.421 − 3.53
9 6.06 − 5.9	10 14.002 − 1.22	11 3.102 − 1.241	12 13.062 − 6.291
13 14.367 − 8.29	14 89.036 − 82.487	15 12.036 − 1.029	16 6.2473 − 2.4

07

Selected Answers:

7. 07. 07. 04

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NAME CLASS DATE

ARRANGE AND FIND DIFFERENCE BETWEEN DECIMALS

Directions:

Compute the difference.

1 $.56 - .431$	2 $6.82 - .384$	3 $.024 - .0112$	4 $4.6 - 3.28$
5 $.486 - .2912$	6 $.5 - .243$	7 $.29 - .1536$	8 $14.29 - 6.021$
9 $12.04 - 2.362$	10 $5.002 - 1.1132$	11 $8.46 - 2.3821$	12 $14.6 - 9.2137$
13 $.41 - .2536$	14 $2.53 - 1.924$	15 $12.02 - 1.136$	16 $14.258 - 9.8247$

Selected Answers:

07

7 . 07 . 07 . 05

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NAME CLASS DATE

COMPUTE DIFFERENCE OF TWO DECIMALS LISTED HORIZONTALLY

Directions:

Compute.

1	$15.6 - 8.2 =$	7	$4 - 2.07 =$
2	$25.46 - 9.27 =$	8	$6.3 - 5.86 =$
3	$14.37 - 2.9 =$	9	$13.4 - 9.204 =$
4	$102.6 - 15.7 =$	10	$102.3 - 1.36 =$
5	$99.3 - 8.76 =$	11	$.586 - .249 =$
6	$16 - 9.3 =$	12	$.02 - .0056 =$

07

Selected Answers:

7.07.08

MULTIPLICATION AND DIVISION OF DECIMALS

(standard, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

*7.07.08.01	determine the number of decimal places in the product of a given multiplication example by finding the sum of the number of decimal places of the factors;
7.07.08.02	place the decimal point in the product of a given multiplication example if the digits of the product are given;
7.07.08.03	compute the product of two decimal numerals;
7.07.08.04	compute the product of a decimal numeral and a power of ten which is written as a standard numeral;
7.07.08.05	place the decimal point in the quotient of a given division example in which the divisor is a whole number;
7.07.08.06	find the quotient given a division example in which the divisor is a whole number;

07

*This I.O. is not tested on an I.S.S. Test.

continued ...

7 . 07 . 08 . 02

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NAME _____ CLASS _____ DATE _____

PLACE THE DECIMAL POINT IN A GIVEN PRODUCT

Directions:

Place the decimal point in the product.

1 $.7 \times .6 = 42$	2 $.36 \times .4 = 144$	3 $.56 \times .9 = 504$	4 $.36 \times 7 = 252$
5 $.402 \times .8 = 3216$	6 $3.62 \times 3 = 1086$	7 $3.47 \times .5 = 1735$	8 $.024 \times .2 = 48$
9 $.056 \times .3 = 168$	10 $4.6 \times 2.3 = 1058$	11 $.46 \times 2.3 = 1058$	12 $.46 \times .23 = 1058$
13 $.046 \times .23 = 1058$	14 $.123 \times 6 = 738$	15 $.0123 \times .6 = 738$	16 $.0123 \times .06 = 738$

07

Selected Answers:

7 · 07 · 08 · 03

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NAME _____ CLASS _____ DATE _____

FIND THE PRODUCT OF TWO DECIMAL NUMERALS

Directions:

Compute the product.

1 4.6×3	2 8.3×5	3 $.46 \times 9$	4 $.36 \times 4 =$
5 $.32 \times .85$	6 $.49 \times .06$	7 $2.37 \times .8$	8 $.56 \times .37 =$
9 $2.46 \times .8$	10 $.487 \times .9$	11 $.046 \times 2.3$	12 $.0037 \times .16$
13 18.3×26	14 19.3×4.6	15 $.042 \times .03$	16 $2.47 \times .31 =$

07

Selected Answers:

7 • 07 • 08 • 04

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NAME CLASS DATE

DETERMINE THE NUMBER OF DECIMAL PLACES WHEN USING POWERS

Directions:

Compute the product.

1 4.37×10	2 52.4×100	3 $.026 \times 100$	4 $2.5 \times 100 =$
5 42.53×1000	6 $.0582 \times 100$	7 16.37×100	8 $.036 \times 1000 =$
9 $.48 \times 1000$	10 5.6×100	11 $.024 \times 100$	12 $1.378 \times 100 =$
13 $.0026 \times 10$	14 $.0049 \times 100$	15 $.0037 \times 1000$	16 $.02487 \times 100$

07

Selected Answers:

7 .07 .08 .05

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NAME CLASS DATE

PLACE A DECIMAL POINT IN A QUOTIENT

Directions:

Place the decimal point in the quotient.

1 $4\overline{)8.4}$ = 21	2 $4\overline{).84}$ = 21	3 $4\overline{).084}$ = 21	4 $4\overline{).0084}$ = 21
5 $6\overline{)36.6}$ = 61	6 $6\overline{)3.66}$ = 61	7 $6\overline{).366}$ = 61	8 $6\overline{).0366}$ = 61
9 $12\overline{)14.4}$ = 12	10 $12\overline{)1.44}$ = 12	11 $12\overline{).144}$ = 12	12 $12\overline{).0144}$ = 12
13 $24\overline{)1032}$ = 43	14 $24\overline{)10.32}$ = 43	15 $24\overline{)1.032}$ = 43	16 $24\overline{).1032}$ = 43

07

Selected Answers:

7 . 07 . 08 -06

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NAME CLASS DATE

DIVIDE A DECIMAL BY A WHOLE NUMBER

Directions:

Compute the quotient.

1 $6\overline{)74.4}$	2 $8\overline{)125.6}$	3 $61.8 \div 6 =$
4 $8\overline{)34.88}$	5 $12\overline{)70.32}$	6 $1724.8 \div 14 =$
7 $21\overline{)428.82}$	8 $9\overline{).414}$	9 $.259 \div 25 =$

07

Selected Answers:

7.07.08.07	write an equivalent division example in which the divisor is a whole number, given a division example in which the divisor is a decimal numeral;
7.07.08.08	compute the quotient given a division example in which the divisor is a decimal numeral;
7.07.08.09	compute the quotient to a specified decimal place given a division example in which the divisor is a whole number or decimal numeral;
7.07.08.10	compute the quotient by correctly placing the decimal point given a division example in which the divisor is a power of 10.

7.07.08.07

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NAME CLASS DATE

MOVE DECIMAL POINTS IN DIVISOR AND DIVIDEND

Directions:

Write an equivalent division example where the divisor is a whole number.

1 $.6\overline{)5.86}$	2 $.7\overline{).439}$	3 $.3\overline{).024}$	4 $.9\overline{)375}$
5 $1.2\overline{)48.6}$	6 $2.3\overline{)4.362}$	7 $.42\overline{).05}$	8 $.37\overline{)246.2}$
9 $.03\overline{)4.97}$	10 $.05\overline{).05}$	11 $.39\overline{).4863}$	12 $1.2\overline{)486}$
13 $1.12\overline{)5.624}$	14 $1.15\overline{)2.4}$	15 $.013\overline{).489}$	16 $.257\overline{)1.23}$

07

Selected Answers:

.07 .08 .08

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NAME _____ CLASS _____ DATE _____

FIND THE QUOTIENT WHEN THE DIVISOR IS A DECIMAL

Directions:

Compute the quotient.

1 $.3\overline{)42.6}$	2 $.8\overline{)4.712}$	3 $.0612 \div .4 =$
4 $.7\overline{)1.58}$	5 $.25\overline{)109}$	6 $.0125 \div .005 =$
7 $.53\overline{).7738}$	8 $.025\overline{)1.4}$	9 $1.692 \div .036 =$

Selected Answers:

7 .07 .08 .09

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NAME _____ CLASS _____ DATE _____

FIND THE QUOTIENT WHEN THE DIVISOR IS A DECIMAL

Directions:

(1-4) Compute the quotient to the nearest tenth.
(5-9) Compute the quotient to the nearest hundredth.

1 $.3\overline{)9.4}$	2 $.7\overline{)12.52}$	3 $1.4\overline{)27.43}$
4 $2.6\overline{)32.41}$	5 $.24\overline{).536}$	6 $.9\overline{)4.36}$
7 $.7\overline{)5.06}$	8 $.7\overline{).043}$	9 $.58\overline{)24.258}$

07

Selected Answers:

7 · 07 · 08 · 10

NAME _____ CLASS _____ DATE _____

COMPUTE THE QUOTIENT WHEN THE DIVISOR IS A POWER OF TEN

Directions:

Compute the quotient.

1 $10\overline{)4.3}$	2 $10\overline{)5.6}$	3 $100\overline{)4.3}$	4 $56 \div 100 =$
5 $100\overline{)36.2}$	6 $100\overline{)4.86}$	7 $100\overline{)256.2}$	8 $463.5 \div 100 =$
9 $1000\overline{)56.123}$	10 $1000\overline{)143.6}$	11 $1000\overline{)2.469}$	12 $.389 \div 1000 =$
13 $1000\overline{).012}$	14 $100\overline{)1}$	15 $10\overline{)417}$	16 $402 \div 100 =$

07

Selected Answers:

7.07.09

VERBAL PROBLEMS INVOLVING DECIMALS

(standard, 4 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.09.01	solve a verbal problem involving decimal numerals and one operation;
7.07.09.02	solve a verbal problem involving decimal numerals and two operations.

7 .07 .09 .01
. . .

NAME _____ CLASS _____ DATE _____

SOLVE PROBLEMS INVOLVING DECIMALS AND ONE OPERATION

Directions:

Solve each word problem.

1	Normal body temperature is 98.6° Fahrenheit. How many degrees above normal is a temperature of 101.8° Fahrenheit?
2	Barry long-jumped 3.49 meters. His school record was 3.91 meters. By how much was he short of the school record?
3	A hiking club hiked 23.1 miles in 3.3 hours. How many miles did they average per hour?
4	The members of a mile relay team had these quarter-mile times: 68.6 seconds, 72.9 seconds, 71.5 seconds, and 67.4 seconds. In how many seconds did they run the mile?
5	A jet plane averaged 638.6 miles per hour. At that rate how far did it travel in 4.5 hours?
6	There are 3.76 quarts of oil to be put into 4 containers. The same amount is to be put into each container. How much oil will be put into each container?

07

Selected Answers:

7 · 07 · 09 · 01

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NAME CLASS DATE

SOLVE PROBLEMS INVOLVING DECIMALS AND ONE OPERATION

Directions:

Solve each word problem.

1	The average yearly rainfall for Suffolk County is 35.25 inches. Last year 29.14 inches of rain were recorded. How many inches below average was this?
2	Mr. Mills paid $4.25 for 3.4 pounds of grass seed. How much did the grass seed cost per pound?
3	The odometer readings on three cars are 4,256.7; 2,586.2; and 8,142.6. According to the odometers what is the total number of miles the cars were driven?
4	A wire 15.3 inches long is to be separated into 9 pieces, each the same length. How long will each piece of wire be?
5	Jose has two packages that weigh 4.7 pounds. One package weighs 2.4 pounds. How
6	Each inch of wire weighs .016 pounds. How many pounds would 3.75 inches of wire weigh?

07

Selected Answers:

7 .07 .09 .02

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NAME CLASS DATE

SOLVE PROBLEMS INVOLVING DECIMALS AND TWO OPERATIONS

Directions:

Solve each word problem.

1	Carl bought a baseball glove for $25.50, a baseball for $3.25, a baseball uniform for $37.50. How much change will he receive from a $100 bill?
2	Mr. Jack is making a trip which is exactly 250.3 miles. After traveling 3 hours in which he averaged 50.1 miles per hour, he stopped for lunch. How many miles does he still have to travel?
3	See information in problem #2 To the nearest tenth of an hour, how much longer will it take Mr Jack to complete his trip if his average speed remains the same?
4	Mr. Steel received a shipment of nails which weighed 125.5 pounds. He re-packaged the nails into 5 cartons. The maximum weight that each carton can hold is 24.3 pounds. How many pounds of nails were not packaged?
5	The record rainfall for the first three months of the year in Tuskee County is 12.3 inches. The rainfall for the first two months this year was 5.2 inches and 4.9 inches. How much rain has to fall during the third month to tie the record?
6	Mr. Brice received a shipment of 5 dozen shirts at a price of $5.25 per shirt. What was the cost of the 5 dozen shirts?

07

Selected Answers:

7.07.10

BASIC PERCENTS

(standard, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.10.01	change a given percent to an equivalent fraction;
7.07.10.02	change a given whole number percent to an equivalent decimal numeral;
7.07.10.03	change a given fraction (denominator a factor of 100) to a percent;
7.07.10.04	change a given one or two place decimal numeral to a percent;
7.07.10.05	compute the whole number percent of a given number;
7.07.10.06	compute what whole number percent one number is of another.

07

7 · 07· 10·01

NAME _____ CLASS _____ DATE _____

CHANGE A PERCENT TO AN EQUIVALENT FRACTION

Directions:

Write each percent as a fraction.

1 $50\% =$	2 $25\% =$	3 $33\frac{1}{3}\% =$	4 $66\frac{2}{3}\% =$
5 $20\% =$	6 $75\% =$	7 $10\% =$	8 $15\% =$
9 $7\% =$	10 $29\% =$	11 $35\% =$	12 $1\% =$
13 $117\% =$	14 $200\% =$	15 $100\% =$	16 $500\% =$

07

7 · 07 · 10 02

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NAME _____ CLASS _____ DATE _____

CHANGE A WHOLE NUMBER PERCENT TO A DECIMAL

Directions:

Write each percent as a decimal.

1 63% =	2 15% =	3 9% =	4 87% =
5 1% =	6 100% =	7 250% =	8 169% =
9 12% =	10 93% =	11 10% =	12 81% =
13 6% =	14 99% =	15 101% =	16 75% =

07

NAME CLASS DATE

CHANGE A FRACTION TO A PERCENT

Directions:

Write each fraction as a percent.

1 $\frac{1}{2}=$	2 $\frac{1}{5}=$	3 $\frac{7}{10}=$	4 $\frac{3}{20}=$
5 $\frac{9}{25}=$	6 $\frac{17}{25}=$	7 $\frac{4}{5}=$	8 $\frac{1}{50}=$
9 $\frac{7}{50}=$	10 $\frac{50}{50}=$	11 $\frac{7}{5}=$	12 $\frac{27}{20}=$
13 $\frac{19}{20}=$	14 $\frac{13}{10}=$	15 $\frac{1}{10}=$	16 $\frac{19}{25}=$

07

7 · 07 · 10 · 04

NAME _____ CLASS _____ DATE _____

CHANGE A ONE OR TWO PLACE DECIMAL TO A PERCENT

Directions:

Write each decimal as a percent.

1 .37=	2 .8=	3 .24=	4 .9=
5 .93=	6 .2=	7 .57=	8 .1=
9 .58=	10 .69=	11 .5=	12 .39=
13 .41=	14 .03=	15 .07=	16 .81=

07

7 · 07 · 10 · 05

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NAME _____ CLASS _____ DATE _____

COMPUTE THE WHOLE NUMBER PERCENT OF A GIVEN NUMBER

Directions:

Find the percent of each number.

1 15% of 20=	2 25% of 100 =	3 6% of 25 =	4 12% of 16 =
5 1% of 57 =	6 37% of 37 =	7 16% of 106 =	8 9% of 250 =
9 7% of 6.5 =	10 13% of 4.2 =	11 85% of 17.9 =	12 6% of 1.2 =
13 5% of $100 =	14 13% of $500 =	15 1% of $12.50 =	16 11% of $13.62 =

07

7 · 07 · 10 · 06

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NAME _____ CLASS _____ DATE _____

COMPUTE WHAT PERCENT ONE NUMBER IS OF ANOTHER

Directions:

Determine what percent one number is of another.

1 3 is what percent of 4?	2 6 is what percent of 10?	3 2 is what percent of 5?	4 8 is what percent of 2?
5 what percent is 5 of 20?	6 what percent is 7 of 10?	7 what percent is 3 of 1?	8 what percent is 1 of 10?
9 3 is what percent of 30?	10 8 is what percent of 4?	11 3 is what percent of 20?	12 7 is what percent of 25?
13 what percent of 25 is 1?	14 what percent of 10 is 3?	15 what percent of 20 is 30?	16 what percent of 50 is 7?

07

7.07.11

VERBAL PROBLEMS INVOLVING RATE, DISCOUNT AND COMMISSION

(standard, 7 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

7.07.11.01	solve a verbal problem finding what percent one number is of another;
7.07.11.02	solve a verbal problem finding the amount of discount or the amount of commission;
7.07.11.03	solve a verbal problem finding the amount of interest or the amount of sales tax;
7.07.11.04	solve a verbal problem finding the rate of interest or the tax rate;
7.07.11.05	solve a verbal problem finding the rate of discount or the rate of commission.

7 . 07 . 11 . 01

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NAME CLASS DATE

SOLVE PROBLEMS FINDING WHAT PERCENT ONE NUMBER IS OF ANOTHER

Directions:

Solve each word problem.

1	Twenty-four of the 50 students invited to a party were able to attend. What percent of the students were able to attend?
2	During a basketball game Russell attempted 20 baskets and made 13. What percent of the baskets attempted did he make?
3	Gregory answered 42 of 50 test questions correctly. What percent of the questions did he answer correctly?
4	Out of 100 votes for class president Richard received 67. What percent of the votes did he receive?
5	A farmer has 200 acres of land. He has already plowed 150 acres. What percent of the land has he plowed?
6	Terry missed 6 days of school during the month of October. If there are 20 school days in October, what percent of the school days was she absent?

07

7 · 07 · 11 · 02

NAME CLASS DATE

FIND THE AMOUNT OF DISCOUNT OR COMMISSION

Directions:

Solve each word problem.

1. Paul's golf bag was listed at $20.00, but because of a torn strap he was given a 10% discount. How much did he save?

2. A company hired Mr. Finn to collect their rents. If he received a 2% rate of commission, how much commission did he receive for collecting $960?

3. How much is saved by buying a $350 color TV at a rate of discount of 20%?

4. All books were marked 33⅓% off. How much did Lucille save if she bought three books which listed for $2.25?

5. An agent receives a 5% rate of commission for selling a house. If he sold a house for $24,000 what was his commission? How much did the owner receive?

6. A salesman representing an electric firm sold goods amounting to $775. His rate of commission was 10%. How much money did he earn?

07

7 · 07 · 11 · 03

NAME _____ CLASS _____ DATE _____

FIND THE AMOUNT OF INTEREST OR SALES TAX

Directions:

Solve each word problem.

1. In a certain state the sales tax is 5% of the purchase price. How much tax must be paid on a $60 purchase?

2. A man borrowed $500 for 1 year at 6% per year. How much interest must he repay on the loan?

3. David invested $700 in a bank that paid 7% interest. How much did he get after 1½ years?

4. Jane has a $400 bond that pays 5% interest each year. How much interest will she receive in 3 years.

5. In New York City Mary bought items costing a total of $150. What did she have to pay in taxes if the sales tax is 8%?

6. John put $150 of his money into a savings bank. How much money did he receive in interest at the end of the year if the rate of interest is 5%?

07

7 .07 .11 .04

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NAME CLASS DATE

FIND THE RATE OF INTEREST OR TAX RATE

Directions:

Solve each word problem.

1	In a certain city if you purchase items worth $100 you pay $8 in sales tax. What is the tax rate?
2	Find the rate of interest when the interest for 1 year on $600 is $72?
3	What was the rate of interest on a loan of $2000 if the borrower had to pay back $200 at the end of 1 year?
4	At a leading department store Sally made purchases amounting to $50. She had to pay $5 in taxes. What was the tax rate?
5	A bank charged Mr. Smith $60 interest on his loan. The loan of $500 was for 1 year. What was the rate of interest?
6	John had $400 in an account for $\frac{1}{2}$ year. He received $24 in interest. What was the rate of interest?

07

NAME _____ CLASS _____ DATE _____

FIND THE RATE OF DISCOUNT OR THE RATE OF COMMISSION

Directions:

Solve each word problem.

1	While working in his uncle's hardware store Ted received a commission of $15 for making sales totaling $150. What was his rate of commission?
2	Mrs. Ward bought a new washer that was listed at $400. She paid $300 for it. What rate of discount was she allowed?
3	An insurance salesman who works on commission sold $4,600 worth of insurance. For his work he received a check for $690 in the mail. What is his rate of commission?
4	Candy marked at 120¢ a pound was sold at a discount of 40¢. What was the rate of discount?
5	Martha sold magazines. Her sales one week amounted to $250. She received a $50 commission. What was her rate of commission?
6	Jim warted until after Christmas to buy a microscope. Before Christmas it was marked $25. Jim paid $20. What was his rate of discount?

07

7.07.12

FRACTIONAL AND DECIMAL PERCENT

(advanced, 11 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.07.12.01	change a given fractional percent to an equivalent fraction;
7.07.12.02	change a given decimal percent to an equivalent fraction;
7.07.12.03	change a given fractional percent to an equivalent decimal;
7.07.12.04	change a given decimal percent to an equivalent decimal;
7.07.12.05	change a fraction whose denominator is not a factor of 100 to a percent;
7.07.12.06	change a decimal with more than two decimal places to a percent;
7.07.12.07	compute a decimal or fractional percent of a given number;
7.07.12.08	compute the fractional or decimal percent one number is of another;
7.07.12.09	solve a general verbal problem involving fractional or decimal percents.

7 · 07 · 12 · 01

NAME _____ CLASS _____ DATE _____

CHANGE A FRACTIONAL PERCENT TO AN EQUIVALENT FRACTION

Directions:

Write each percent as a fraction in lowest terms.

1 $87\frac{1}{2}\% =$	2 $66\frac{2}{3}\% =$	3 $37\frac{1}{2}\% =$	4 $3\frac{1}{3}\% =$
5 $18\frac{3}{4}\% =$	6 $58\frac{1}{3}\% =$	7 $11\frac{1}{9}\% =$	8 $9\frac{1}{11}\% =$
9 $8\frac{1}{3}\% =$	10 $\frac{2}{3}\% =$	11 $42\frac{6}{7}\% =$	12 $83\frac{1}{3}\% =$
13 $125\frac{1}{2}\% =$	14 $100\frac{1}{2}\% =$	15 $411\frac{1}{9}\% =$	16 $283\frac{1}{3}\% =$

07

7 · 07 · 12 · 02

NAME _____ CLASS _____ DATE _____

CHANGE A DECIMAL PERCENT TO AN EQUIVALENT FRACTION

Directions:

Write each decimal percent as a fraction in lowest terms.

1 $2.3\% =$	2 $14.7\% =$	3 $8.9\% =$	4 6.5%
5 4.9%	6 18.3%	7 15.7%	8 120.3%
9 $6.75\% =$	10 $8.75\% =$	11 $12.65\% =$	12 $146.29\% =$
13 $82.7\% =$	14 $93.7\% =$	15 $81.4\% =$	16 $400.1\% =$

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NAME _____ CLASS _____ DATE _____

CHANGE A FRACTIONAL PERCENT TO AN EQUIVALENT DECIMAL

Directions:

Write each fractional percent as a decimal.

1 $12\frac{1}{3}\% =$	2 $9\frac{1}{4}\% =$	3 $15\frac{1}{2}\% =$	4 $25\frac{3}{4}\% =$
5 $125\frac{3}{10}\% =$	6 $105\frac{1}{2}\% =$	7 $99\frac{2}{5}\%$	8 $250\frac{1}{4}\%$
9 $6\frac{1}{2}\% =$	10 $8\frac{1}{8}\% =$	11 $19\frac{1}{3}\%$	12 $15\frac{1}{4}\%$
13 $125\frac{7}{8}\% =$	14 $130\frac{5}{6}\% =$	15 $12\frac{2}{3}\% =$	16 $18\frac{3}{5}\% =$

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7 · 07 · 12 · 04

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NAME CLASS DATE

CHANGE A DECIMAL PERCENT TO AN EQUIVALENT FRACTION

Directions:

Write each decimal percent as a decimal.

1 4.2% =	2 5.9% =	3 1.3% =	4 9.9% =
5 12.3% =	6 15.2% =	7 17.9% =	8 19.3% =
9 26.3% =	10 52.7% =	11 43.26% =	12 58.03% =
13 152.6% =	14 104.2% =	15 125.37% =	16 105.69% =

07

NAME _____ CLASS _____ DATE _____

CHANGE DENOMINATORS NOT FACTORS OF 100 TO DECIMALS

Directions:

Change each fraction to a percent.

1 $\frac{3}{8}$ =	2 $\frac{5}{8}$ =	3 $\frac{1}{16}$ =	4 $\frac{5}{16}$ =
5 $\frac{3}{7}$ =	6 $\frac{1}{12}$ =	7 $\frac{5}{12}$ =	8 $\frac{5}{6}$ =
9 $\frac{1}{6}$ =	10 $\frac{1}{9}$ =	11 $\frac{2}{3}$ =	12 $2\frac{7}{16}$ =
13 $4\frac{3}{8}$	14 $1\frac{1}{6}$ =	15 $2\frac{1}{3}$ =	16 $1\frac{5}{32}$ =

07

7 · 07 · 12 · 06

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NAME _____ CLASS _____ DATE _____

CHANGE A DECIMAL WIHT MORE THAN 2 DECIMAL PLACES TO A PERCENT

Directions:

Write each decimal as a percent.

1 $.367=$	2 $.402=$	3 $.0367=$	4 $.002=$
5 $1.362=$	6 $2.047=$	7 $3.111=$	8 $4.6039=$
9 $.03092=$	10 $.2861=$	11 $.4069=$	12 $.32051=$
13 $.43\overline{1}=$	14 $.52\overline{3}=$	15 $.42875=$	16 $.12\overline{6}=$

07

NAME _____ CLASS _____ DATE _____

COMPUTE A DECIMAL OR FRACTIONAL PERCENT OF A NUMBER

Directions:

Compute.

1 $33\frac{1}{3}\%$ of 27=	2 $66\frac{2}{3}\%$ of 30=	3 7.5% of 100=	4 19.3% of 25=
5 $87\frac{1}{2}$ of 16=	6 $12\frac{1}{2}\%$ of 160=	7 $82\frac{1}{3}\%$ of 180=	8 $16\frac{2}{3}\%$ of 12=
9 12.5% of 100=	10 6.25% of 32=	11 9.5% of 200=	12 18.1% of 65=
13 15.2% of 6.3=	14 .3% of 3=	15 99.9% of 1000=	16 25.25% of 1=

07

7 · 07 · 12 · 08

NAME _____ CLASS _____ DATE _____

COMPUTE PERCENT ONE NUMBER IS OF ANOTHER

Directions:

(1-8) Write answers as fractional percents.
(9-16) Write answers as decimal percents to the nearest tenth.

1 What percent is 1 of 6?	2 What percent is 5 of 6?	3 What percent is 3 of 8?	4 What percent is 2 of 9?
5 5 is what percent of 11?	6 8 is what percent of 3?	7 2 is what percent of 3?	8 5 is what percent of 32?
9 What percent is 5 of 9?	10 What percent of 7 is 3?	11 17 is what percent of 5?	12 19 is what percent of 11?
13 What percent is 5 of 12?	14 What percent is 1 of 13?	15 5 is what percent of 13?	16 12.1 is what percent of 13?

07

Selected Answers:

NAME _____ CLASS _____ DATE _____

SOLVE PROBLEMS INVOLVING FRACTIONAL OR DECIMAL PERCENTS

Directions:

Solve each word problem.

1. A class turned in 30 pictures for an art exhibit, but only 25 of them could be displayed. What percent of the pictures were displayed?

2. Henry paid a 1½% service charge on his overdue account. He owed $58. How much was the service charge?

3. Jim was at bat 111 times last season. He had 37 hits. What percent of the times at bat did he get hits?

4. A concrete mixture is 32½% water. How much water is there in a sidewalk made up of 1700 kg of concrete?

5. A parcel-post package weighed 24 oz. in all. The contents weighed 20 oz. What percent of the total weight were the wrappings?

6. Of the 2000 Rushville High School seniors, 20.5% go to college. How many of the seniors go to college?

07

TOPIC 9

GEOMETRY

7.09.01	Points, Lines, Rays and Angles	(minimal, 5 days)
7.09.02	Polygons and Space Figures	(minimal, 8 days)
7.09.03	Circles	(minimal, 5 days)
7.09.04	Space Geometry and Space Figures	(advanced, 8 days)

09

7.09.01

POINTS, LINES, RAYS AND ANGLES

(minimal, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.09.01.01	know that a point is represented by a dot and named by a capital letter;
7.09.01.02	recognize a line segment as two points and all points in between and name it by the letters of the end points;
7.09.01.03	recognize a line as a line segment extended endlessly in both directions and name it by using the letters of any two points on the line;
7.09.01.04	recognize that only one line may be drawn through two points;
7.09.01.05	determine that two different lines can intersect in at most one point;
7.09.01.06	recognize a ray as a line segment extended endlessly in one direction and name it using the letter of the endpoint and the letter of any other point on the ray;
7.09.01.07	recognize an angle as the union of two rays with a common endpoint which is called the vertex;

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continued...

7.09.01.08 name an angle;

(1) by using <u>in order</u> three letters which represent a point on one of the rays, the vertex and a point on the other ray.

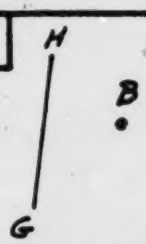
(2) by using the letter of the vertex alone.

NAME _____ CLASS _____ DATE _____

RECOGNIZE A POINT AND NAME IT
RECOGNIZE A LINE SEGMENT AND NAME IT
RECOGNIZE A LINE AND NAME IT

Directions:

Identify and name each figure.
Draw, label and name each figure.

1	2	3
4 	5 A POINT	6 A LINE
7 A LINE SEGMENT	8 A LINE SEGMENT AND A POINT NOT ON THE LINE SEGMENT.	9 TWO LINES

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Selected Answers:

7 . 09 . 01 . 05

NAME _____ CLASS _____ DATE _____

RECOGNIZE THAT ONE LINE MAY BE DRAWN THROUGH TWO POINTS
RECOGNIZE THAT LINES INTERSECT IN AT MOST ONE POINT

Directions:

In each box draw:

1 As many lines that can contain point A.

2 As many lines that can contain both point A and B.

3 As many lines that can contain point A, B, and C.

4 Two intersecting lines.

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Selected Answers:

7 .09 .01 .06

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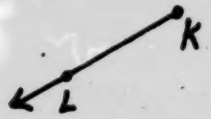
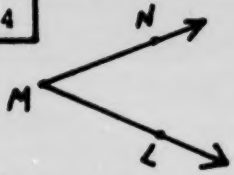
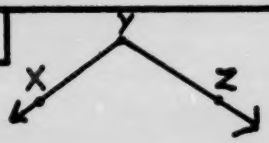
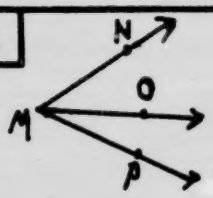
7 .09 .01 .08

NAME _____ CLASS _____ DATE _____

RECOGNIZE A RAY AND NAME IT
RECOGNIZE AN ANGLE AND NAME IT
NAMING AN ANGLE

Directions:

Identify and name each figure as many ways as possible.
(7-9) Draw, label and name.

1	2 	3
4 	5 	6 
7 A RAY	8 AN ANGLE	9 Two angles with a common vertex and common ray.

Selected Answers:

09

7.09.02

POLYGONS & SPACE FIGURES

(minimal, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.09.02.01	recognize a simple closed curve;
7.09.02.02	distinguish between the interior, exterior and boundary of a simple closed curve;
7.09.02.03	recognize a polygon as a simple closed curve made up entirely of line segments;
7.09.02.04	classify polygons by the number of sides;
7.09.02.05	recognize parallel lines;
7.09.02.06	recognize the diagram of a square, rectangle, parallelogram and trapezoid;
7.09.02.07	recognize the diagram of a cube, rectangular prism, pyramid, cone, sphere, and cylinder;
7.09.02.08	identify familiar figures by their mathematical names.

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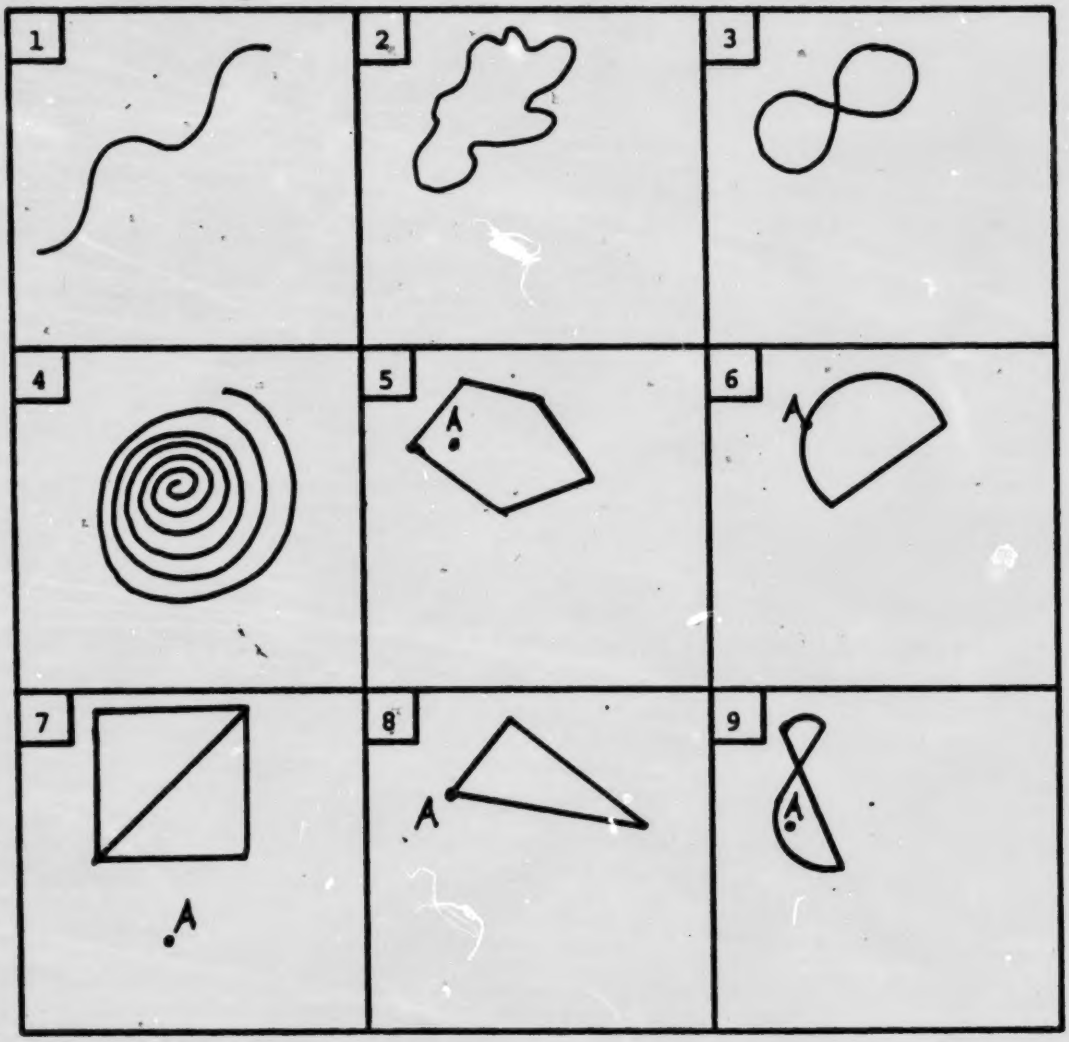
NAME _____ CLASS _____ DATE _____

RECOGNIZE A SIMPLE CLOSED CURVE
RECOGNIZE INTERIOR, EXTERIOR AND BOUNDARY OF CLOSED CURVES

Directions:

Identify each figure as a curve, closed curve or a simple closed curve.
(5-9) Tell whether point A is on the interior, exterior or boundary.



Selected Answers:

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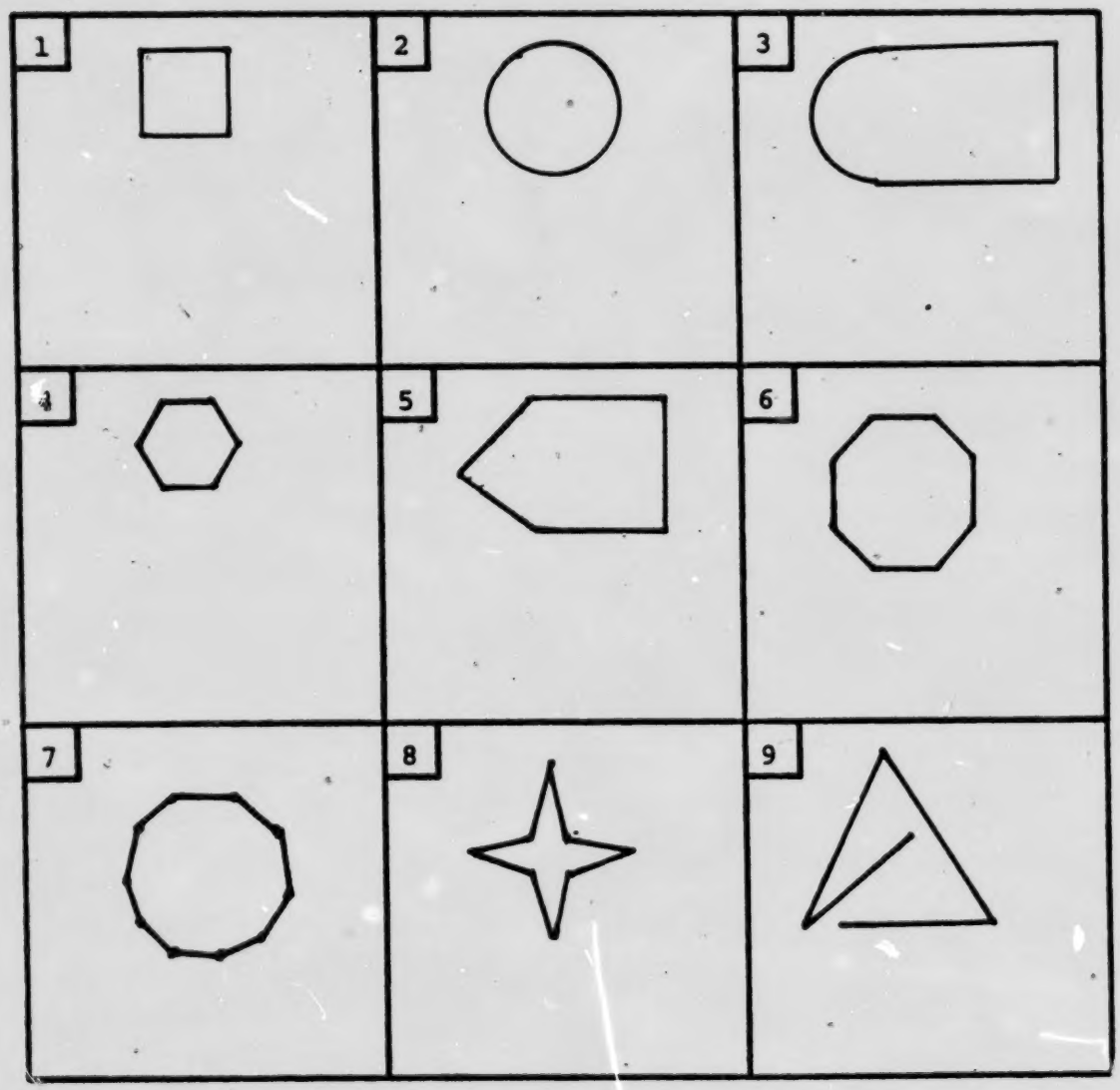
NAME _____ CLASS _____ DATE _____

RECOGNIZE A POLYGON AS A SIMPLE CLOSED CURVE OF LINE SEGMENTS
CLASSIFY POLYGONS BY NUMBER OF SIDES

Directions:

Determine which are polygons and name each.



Selected Answers:

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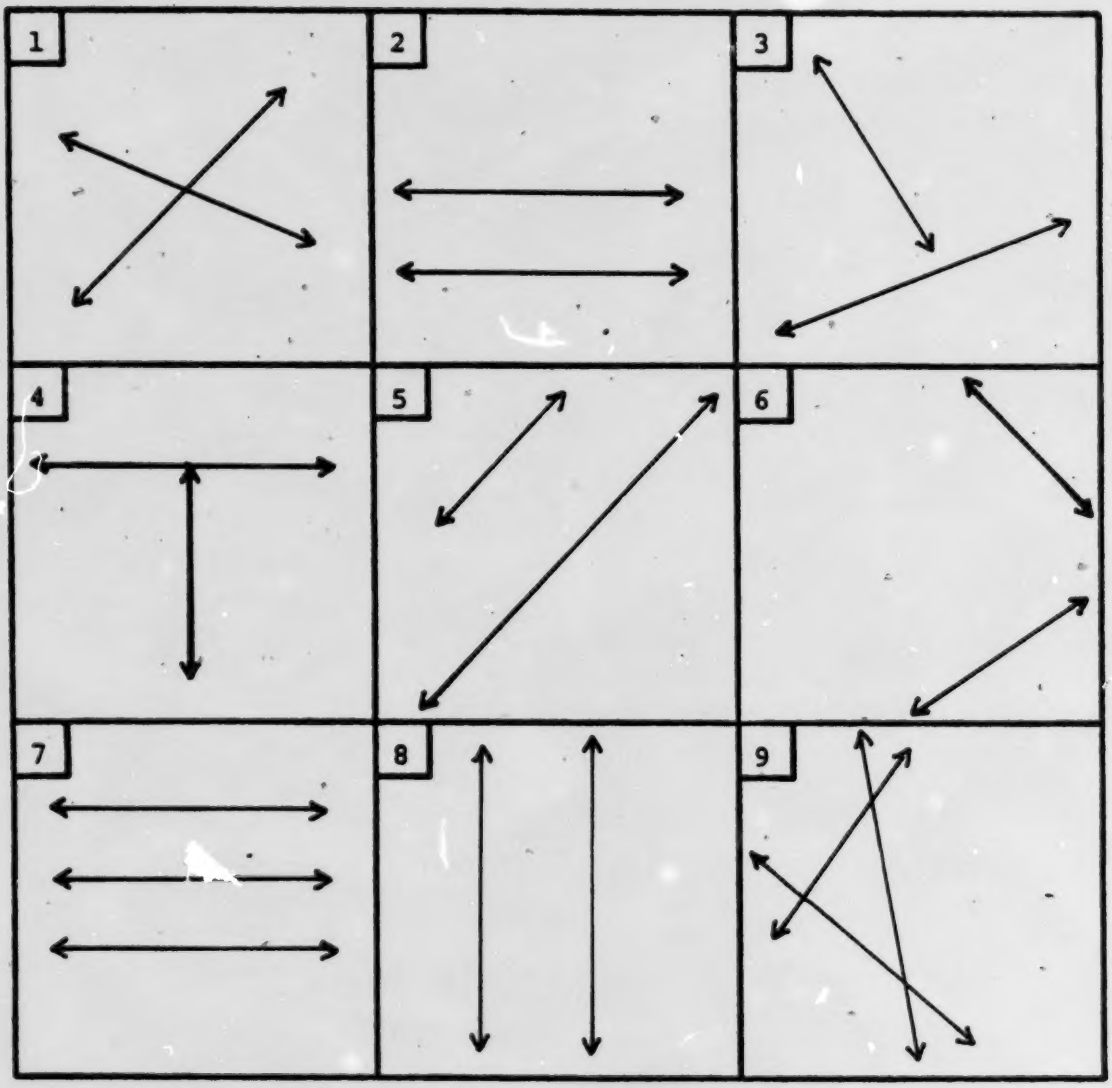
NAME _____ CLASS _____ DATE _____

RECOGNIZE PARALLEL LINES

Directions:

Which are parellel lines?



Selected Answers:

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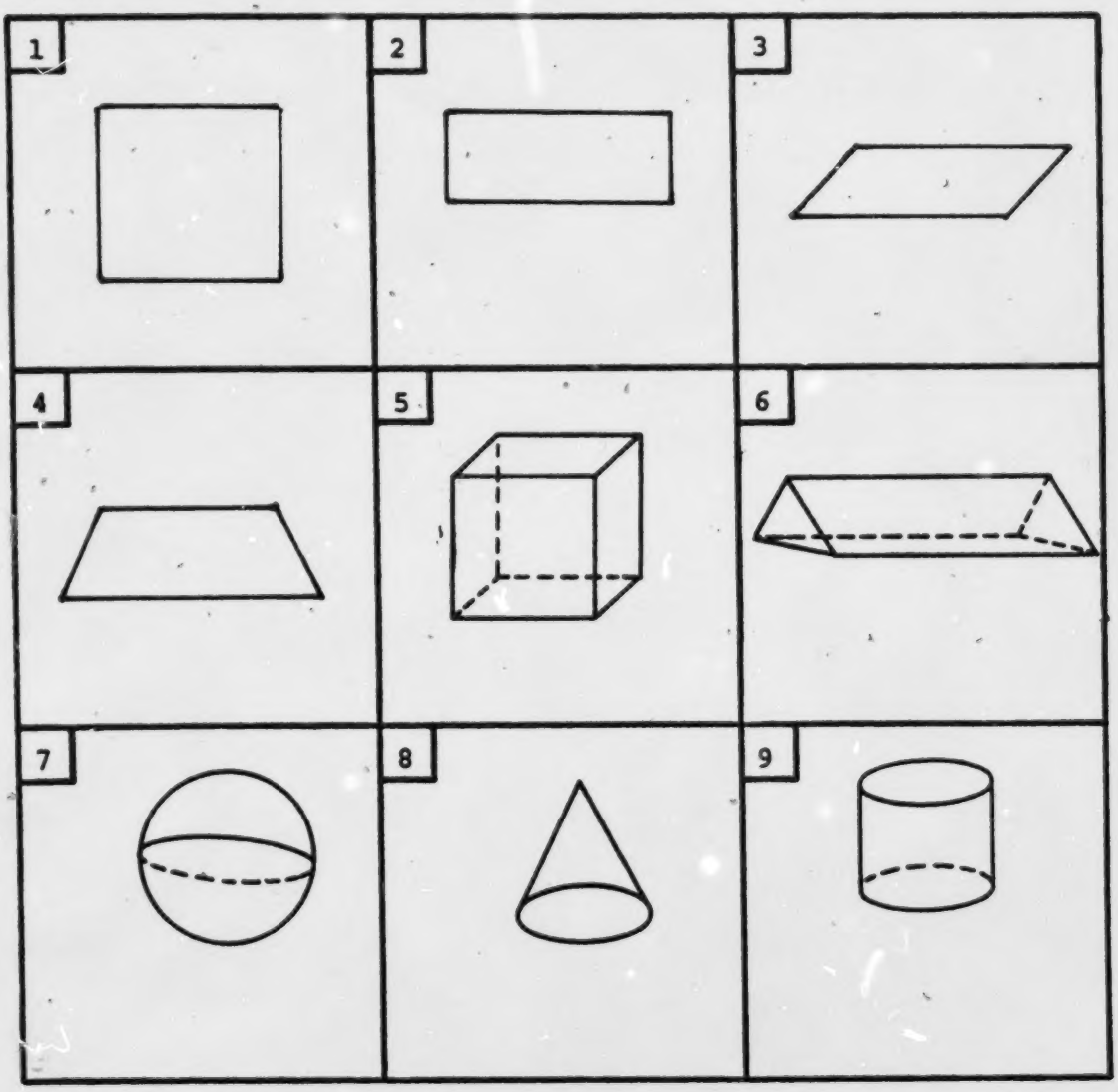
NAME _____ CLASS _____ DATE _____

RECOGNIZE A FOUR-SIDED FIGURE
RECOGNIZE SPACE FIGURES

Directions:

Identify each figure.



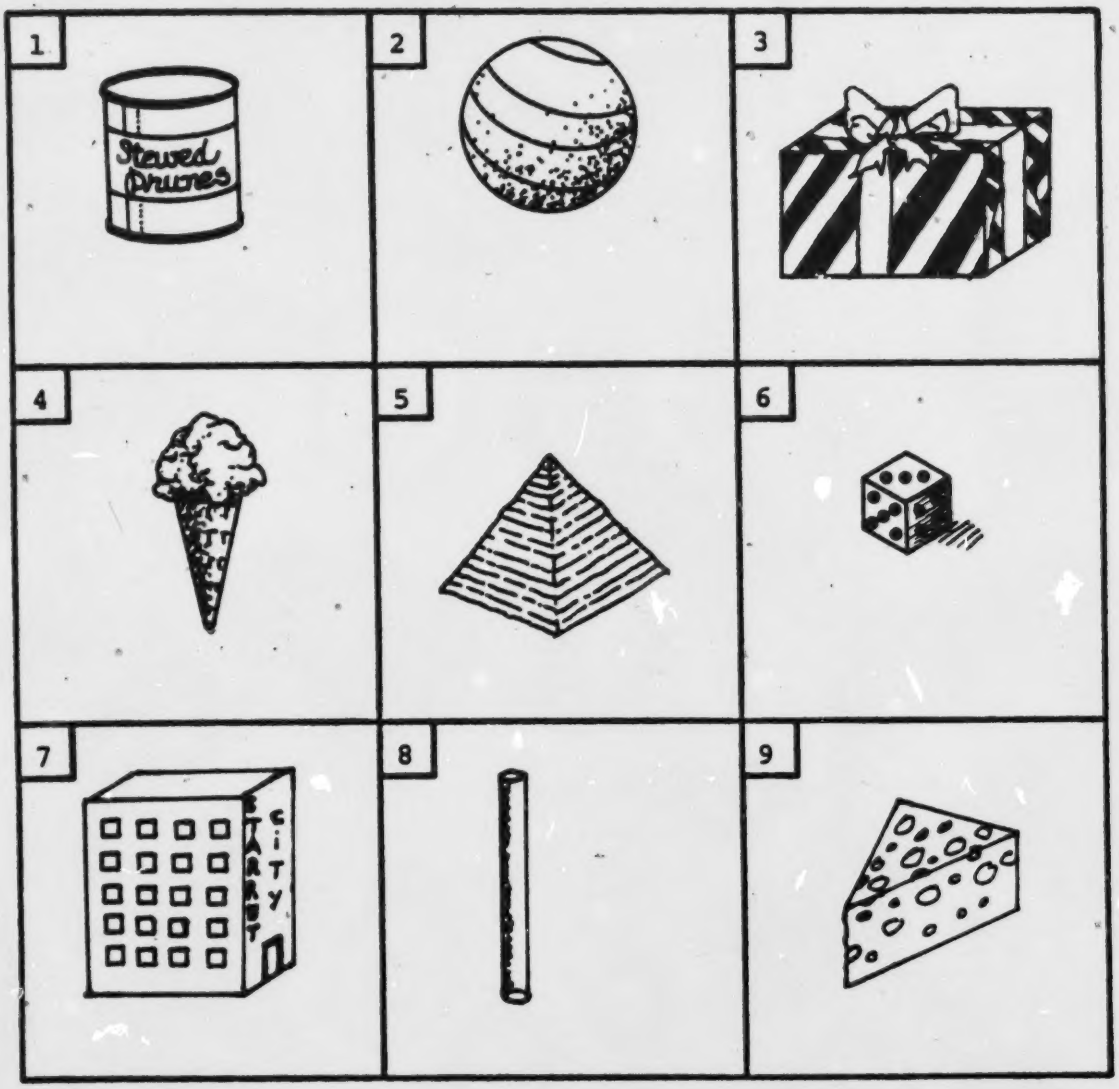
Selected Answers:

NAME _____ CLASS _____ DATE _____

IDENTIFY FIGURES BY METHEMATICAL NAMES

Directions:

Name a geometric figure suggested by each picture.



Selected Answers:

7.09.03

CIRCLES

(minimal, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.09.03.01	identify a circle as a simple closed curve with all points equidistant from a point called the center;
7.09.03.02	identify radii, diameters, chords and central angles in the diagram of a given circle;
7.09.03.03	understand that all diameters in a given circle have the same length and that all radii in a given circle have the same length;
7.09.03.04	identify a diameter as the longest chord in a given circle;
* 7.09.03.05	identify a semicircle as half of a circle.

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* This I.O. is not tested on an ISS test

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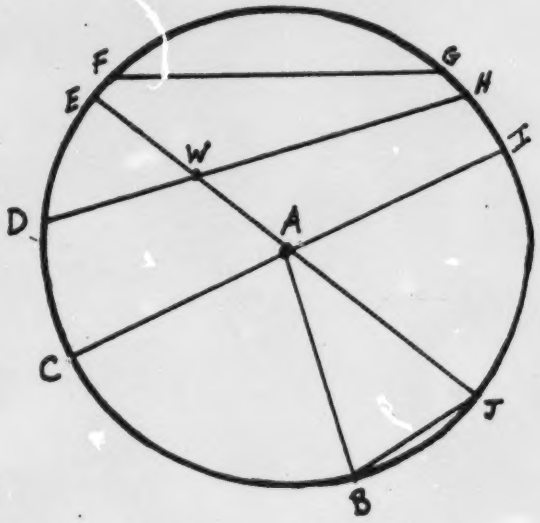
NAME _____ CLASS _____ DATE _____

SUMMARY ACTIVITY FOR 7.09.03

Directions:

Use the following diagram to answer all questions.



1) Which point is the center? _____
2) Name three chords. _____ _____ _____
3) Name three radii. _____ _____ _____
4) Which is the longest chord? _____ or _____
5) Name a diameter. _____
6) Name two central angles. _____ _____
7) Name two semicircles. _____ _____
8) $\overline{AB}$ = ___ = ___ = ___ = ___ = ___ .
9) $\overline{EJ}$ = ___ .
10) The longest chord of a circle is a _____ .

09

7.09.04

SPACE GEOMETRY AND SPACE FIGURES

(advanced, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

7.09.04.01	recognize a plane and name the plane by using a capital letter;
7.09.04.02	recognize that a plane has two dimensions (length and width);
7.09.04.03	determine the intersection of a plane and a point in space;
7.09.04.04	determine the intersection of a plane and a line in space;
7.09.04.05	recognize that one plane is determined by two intersecting or parallel lines, three non-collinear points or a line and a point not on the line;
7.09.04.06	determine the intersection of two planes in space;
7.09.04.07	identify two lines in space as either parallel or skew.
7.09.04.08	identify a space figure as a three dimensional object having width, length, and depth;

continued...

09

7.09.04.09	identify drawings of rectangular or triangular prisms;
7.09.04.10	identify the intersection of two adjacent faces as an edge and two adjacent edges as a vertex in a given rectangular prism or triangular prism;
7.09.04.11	identify and count the number of faces, edges, vertices and bases in a given rectangular prism or triangular prism;
*7.09.04.12	identify drawings of space figures such as spheres, cylinders, cones and pyramids.

*This I.O. is not tested on an I.S.S. Test

TOPIC 10

MEASUREMENT

7.10.01	Ruler Measurement and Conversion	(minimal, 10 days)
7.10.02	Metric Units	(minimal, 8 days)
7.10.03	Angle Measurement	(minimal, 9 days)
7.10.04	Perimeter and Area	(minimal, 7 days)
7.10.05	Computation With English Measurements	(standard, 9 days)
7.10.06	Metric Conversion and Computation	(standard, 10 days)
7.10.07	Perimeter, Circumference and Area by Formula	(standard, 11 days)

10

7.10.01

RULER MEASUREMENT AND CONVERSION

(minimal, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

7.10.01.01	understand that measurement is a comparison between an unknown size and a unit of measure;
7.10.01.02	measure a given line segment with a standard ruler with English units to the nearest 1 in., $\frac{1}{2}$ in., $\frac{1}{4}$ in., $\frac{1}{8}$ in;
7.10.01.03	convert a given measure of length to another unit of length;
7.10.01.04	convert a given measure of weight to another unit of weight;
7.10.01.05	convert a given measure of liquid volume to another unit of liquid volume;
7.10.01.06	convert a given measure of time to another unit of time;
7.10.01.07	solve verbal problems involving conversion of various English measures.

10

7 . 10 . 01 . 02

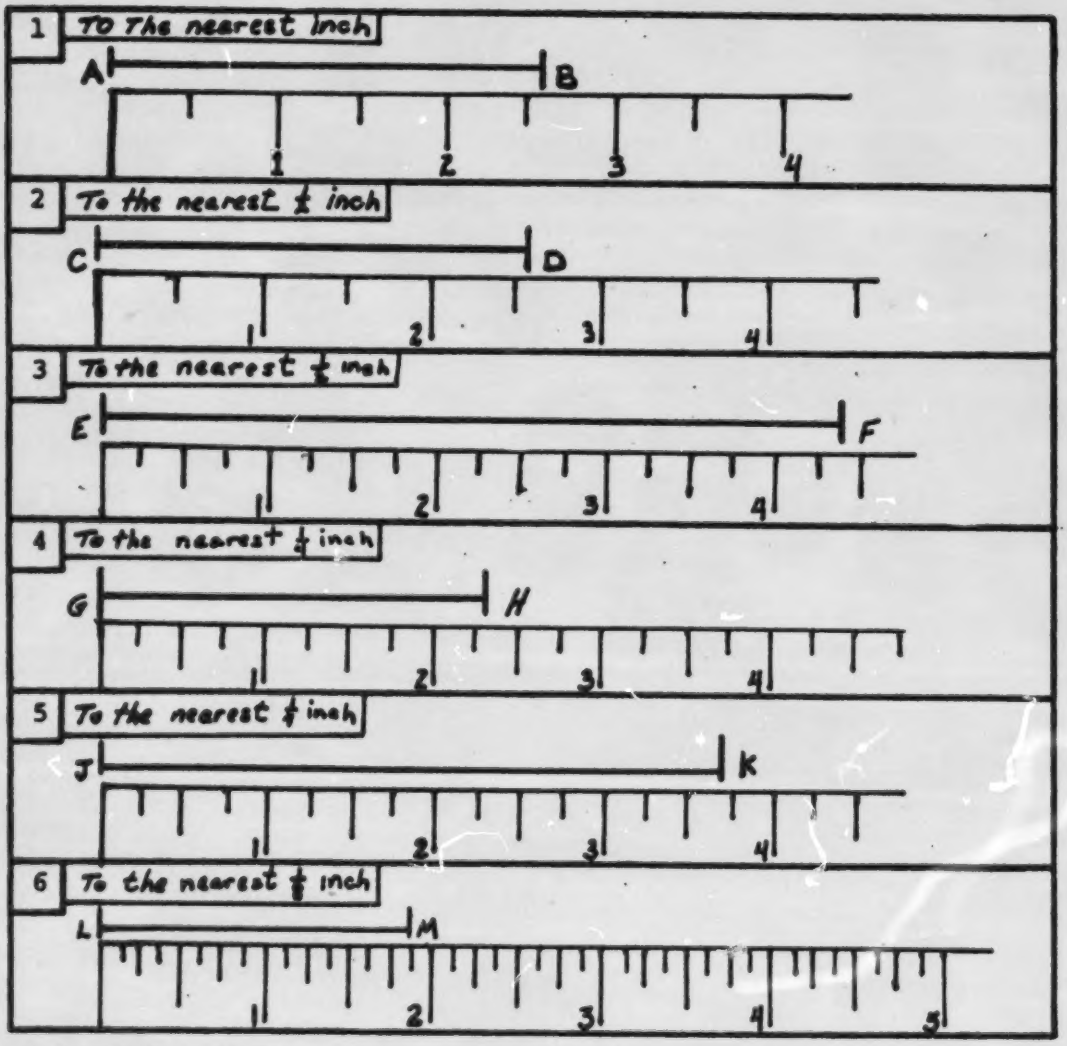
. . .

NAME CLASS DATE

MEASURING LINE SEGMENTS WITH A RULER

Directions:

Determine the measure of the line segment.



10

Selected Answers:

7 . 10 . 01 . 03

7 . 10 . 01 . 04

NAME _____ CLASS _____ DATE _____

CONVERT FROM ONE MEASURE OF LENGTH TO ANOTHER
CONVERT FROM ONE MEASURE OF WEIGHT TO ANOTHER

Directions:

Fill in the frame with an equal measure.

1 $36\text{in.} = \square\ \text{ft.}$	2 $5\text{ft.} = \square\ \text{in.}$	3 $4\text{yd.} = \square\ \text{in.}$	4 $12\text{ft.} = \square\ \text{yd.}$
5 $72\text{in} = \square\ \text{yd.}$	6 $3\text{yd.} = \square\ \text{ft.}$	7 $8\text{ft.} = \square\ \text{in.}$	8 $78\text{in.} = \square\ \text{ft.}$
9 $32\text{oz} = \square\ \text{lb.}$	10 $10\text{lb} = \square\ \text{oz.}$	11 $2\text{tons} = \square\ \text{lb.}$	12 $64\text{oz.} = \square\ \text{lb.}$
13 $\frac{1}{2}\text{lb.} = \square\ \text{oz.}$	14 $20\text{oz.} = \square\ \text{lb}$	15 $4\text{oz.} = \square\ \text{lb.}$	16 $6000\text{lb.} = \square\ \text{ton}$

10

Selected Answers:

7 . 10 . 01 . 05

7 . 10 . 01 . 06

NAME _____ CLASS _____ DATE _____

CONVERT FROM ONE MEASURE OF LIQUID VOLUME TO ANOTHER
CONVERT FROM ONE MEASURE OF TIME TO ANOTHER

Directions:

Fill in the frame with an equal measure.

1 $12 \text{ cups} = \square \text{ qt.}$	2 $5 \text{ qt.} = \square \text{ cups}$	3 $3 \text{ pt.} = \square \text{ oz.}$	4 $32 \text{ oz.} = \square \text{ pt.}$
5 $4 \text{ gal.} = \square \text{ qt.}$	6 $3 \text{ qt.} = \square \text{ pt.}$	7 $24 \text{ qt.} = \square \text{ gal.}$	8 $2 \text{ gal.} = \square \text{ oz.}$
9 $5 \text{ days} = \square \text{ hr.}$	10 $24 \text{ mo.} = \square \text{ yr.}$	11 $30 \text{ min} = \square \text{ hr.}$	12 $2 \text{ yr.} = \square \text{ wk.}$
13 $28 \text{ days} = \square \text{ wk.}$	14 $2 \text{ hr.} = \square \text{ min.}$	15 $\frac{1}{2} \text{ yr.} = \square \text{ mo.}$	16 $90 \text{ min} = \square \text{ hr.}$

10

Selected Answers:

7 . 10. 01. 07

. . .

NAME CLASS DATE

SOLVING WORD PROBLEMS IN MEASUREMENT

Directions:

Solve each problem.

1	The famous basketball player Horatio Dunker is 8 feet tall. How many inches from the ground is the top of his head when he stands up straight?
2	Darlene needed 5 yards of material to make curtains for her room. How many feet of material should she buy?
3	The presidents car weighs 4. tons. How many pounds is this?
4	Judy's cookie receipe asks for ½ cup of milk. How many ounces must she use?
5	Tom needed 12 quarts of paint to paint his house. How many gallons of paint should he buy?
6	Mr. Caravan was on vacation for 28 days. How many weeks was he away from his job.

Selected Answers:

10

7.10.02

METRIC UNITS

(minimal, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.02.01	know the basic metric units of linear, volume and weight measure;
7.10.02.02	compare the basic metric units of linear, volume and weight measures with their English counterparts;
7.10.02.03	express the relationship between a given metric unit of linear measure and the meter (w/o decimals) ex: 1 hectometer = 100 meters 100 centimeters = 1 meter
7.10.02.04	express the relationship between a given metric unit of weight and the gram (w/o decimals) ex: 1 dekagram = 10 grams
7.10.02.05	express the relationship between a given metric unit of volume and the liter (w/o decimals) ex: 1 hectoliter = 100 liters
7.10.02.06	measure a given line segment using a metric ruler.

10

7.10.02.03 | 7.10.02.04 | 7.10.02.05

NAME _____ CLASS _____ DATE _____

RELATIONSHIP BETWEEN METRIC UNITS OF LENGTH AND THE METER
RELATIONSHIP BETWEEN METRIC UNITS OF WEIGHT AND THE GRAM
RELATIONSHIP BETWEEN METRIC UNITS OF VOLUME AND THE LITER

Directions:

Fill in the frame.

1 $100\,cm = \square\,m$	2 $1\,km = \square\,m$	3 $1m = \square\,dm$	4 $10dkm = \square\,m$
5 $1{,}000g = \square\,kg$	6 $1g = \square\,mg$	7 $100dkg = \square$	8 $1g = \square\,dg$
9 $100l = \square\,hl$	10 $1l = \square\,dl$	11 $1l = \square\,Kl$	12 $10dkl = \square\,l$
13 $1{,}000m = \square$	14 $100cg = \square$	15 $10l = \square$	16 $1000mm = \square$

Selected Answers:

10

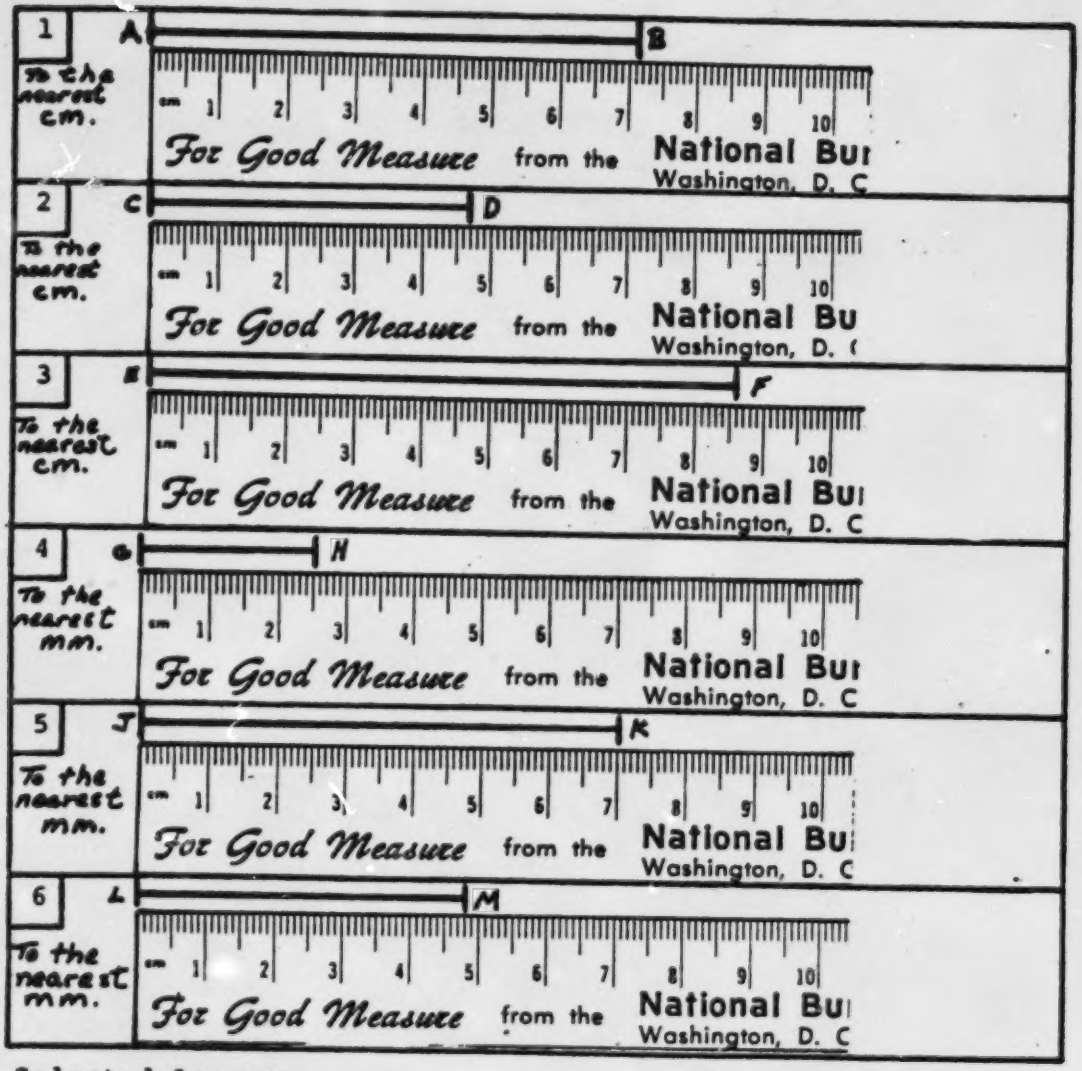
7 • 10 • 02 • 06

NAME CLASS DATE

MEASURING WITH A METRIC RULER

Directions:

Measure the line segment.



10

Selected Answers:

7.10.03

ANGLE MEASUREMENT

(minimal, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.03.01	determine by comparison (not measurement) which angle in a set is the largest or smallest;
7.10.03.02	determine the measure of a given angle by comparison with a unit angle;
7.10.03.03	know that the standard unit of angle measurement is called a degree;
7.10.03.04	determine the measure of an angle by using a protractor;
*7.10.03.05	draw an angle of a specified measure using a protractor;
7.10.03.06	classify a given angle as acute, right, obtuse, or straight.

10

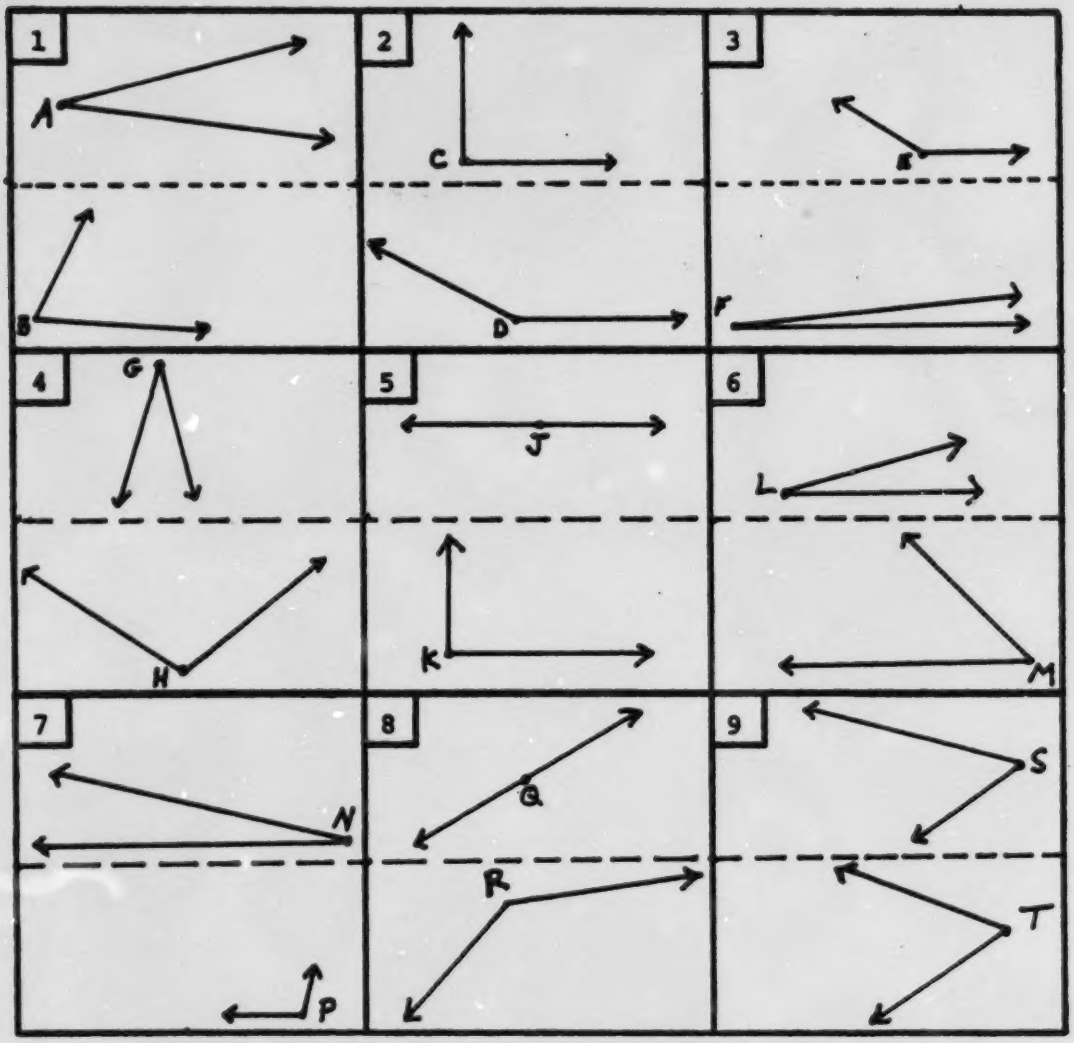
*This I.O. is not tested on an I.S.S. Test.

NAME _____ CLASS _____ DATE _____

DETERMINE THE LARGEST OR SMALLEST ANGLE

Directions:

Which angle of the two is the largest?



Selected Answers:

7 . 10 . 03 . 02

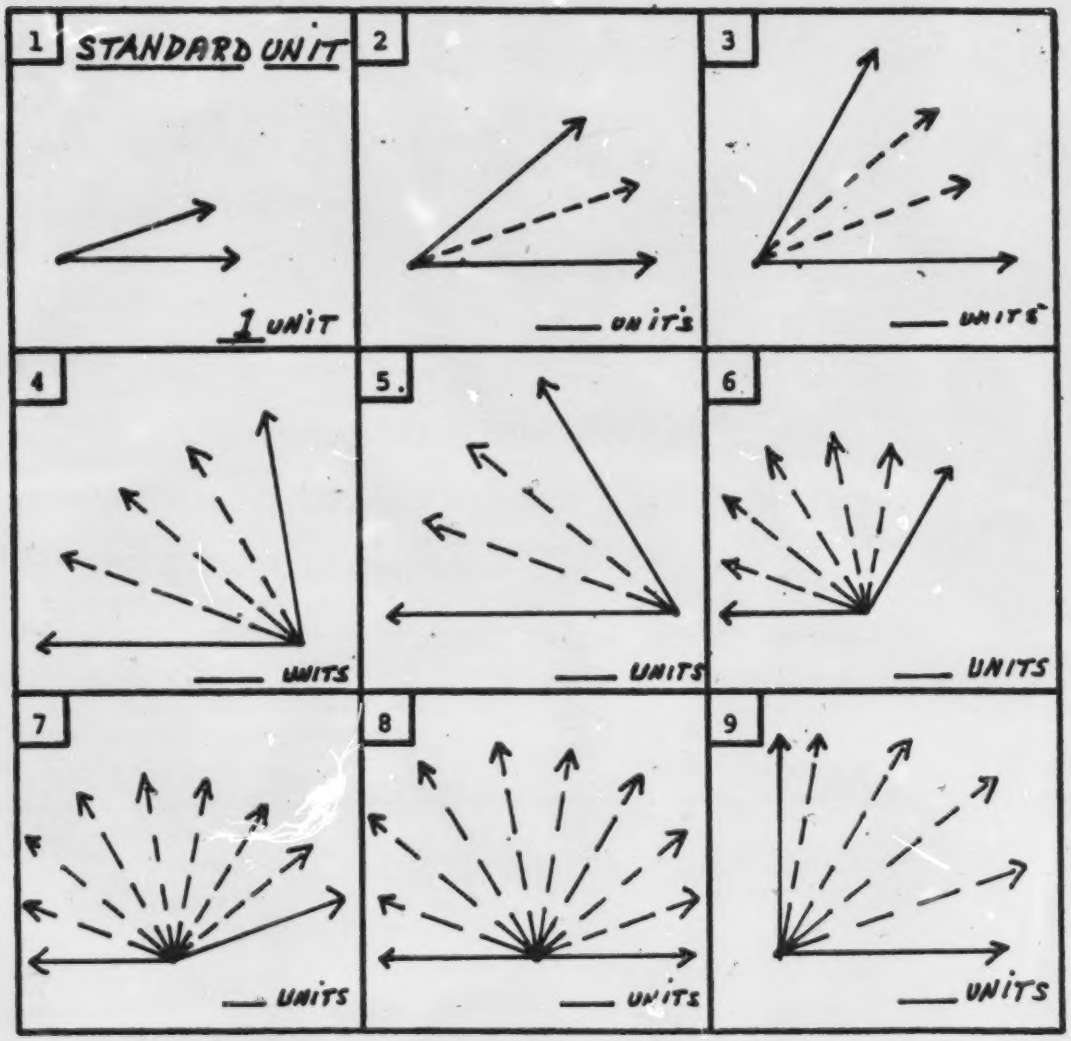
. . .

NAME CLASS DATE

DETERMINE THE MEASURE OF AN ANGLE USING A STANDARD UNIT

Directions:

Using the standard unit angle shown in no. 1, write the measure of each angle.



10

Selected Answers:

7. 10. 03. 04

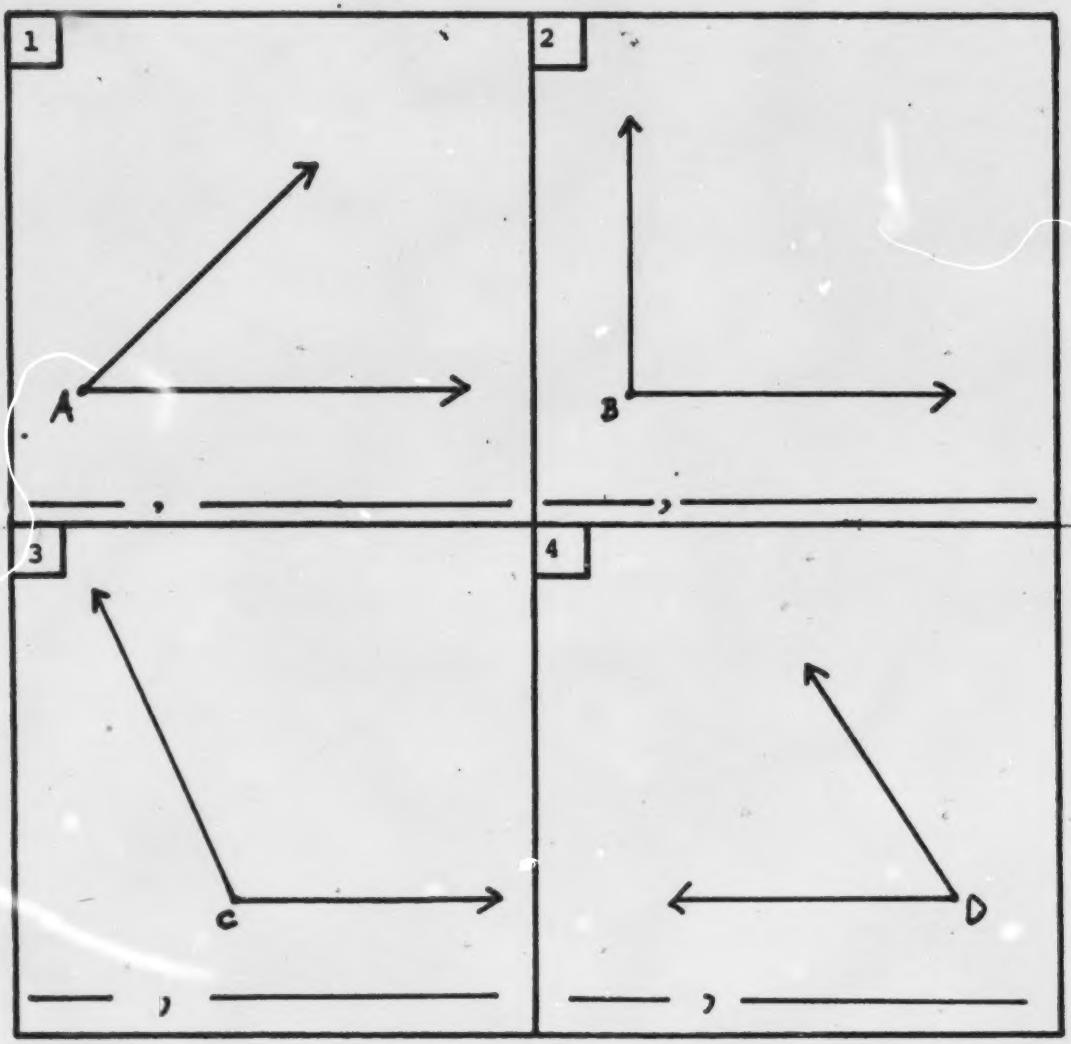
7. 10. 03. 05

NAME _____ CLASS _____ DATE _____

USE A PROTRACTOR TO MEASURE AN ANGLE
CLASSIFY ANGLES

Directions:

Determine the measure of each angle in degrees, and classify it.



10

Selected Answers:

— CONTINUED —

7. 10. 03. 04

7. 10. 03. 05

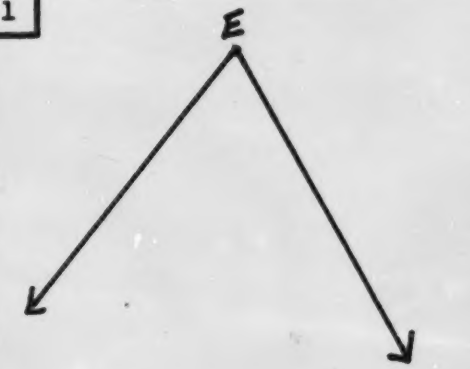
NAME _____ CLASS _____ DATE _____

USE A PROTRACTOR TO MEASURE AN ANGLE
CLASSIFY ANGLES

Directions:

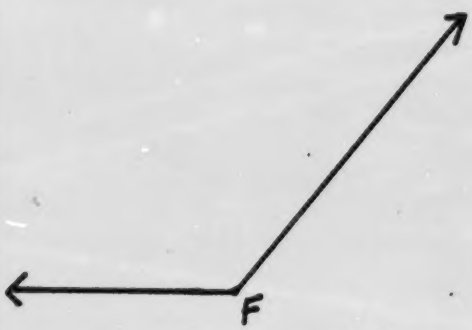
Determine the measure of each angle in degrees, and classify.

1



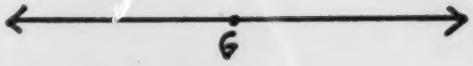
_____ , _____

2



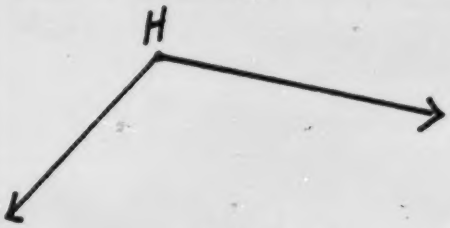
_____ , _____

3



_____ , _____

4



_____ , _____

10

Selected Answers:

7.10.04

PERIMETER AND AREA

(minimal, 7 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.04.01	determine the perimeter of various polygons by computing the sum of the lengths of their sides;
7.10.04.02	determine the area of a rectangle or square by counting the number of square units;
7.10.04.03	find the perimeter of a square or rectangle by adding the two equal lengths and equal widths;
7.10.04.04	find the area of a square or a rectangle by multiplying the length by the width;
7.10.04.05	solve verbal problems involving perimeter or area of a rectangle.

10

7 . 10 .04 .01

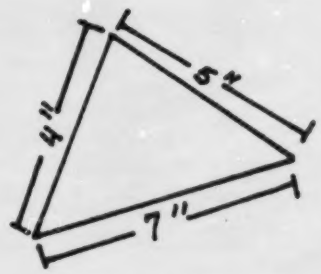
NAME CLASS DATE

PERIMETER OF POLYGONS BY ADDING LENGHTS OF THEIR SIDES

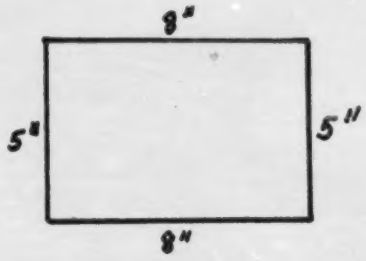
Directions:

Determine the perimeter.

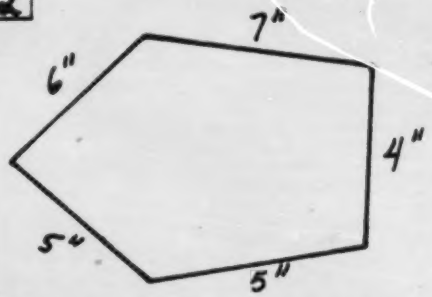
1



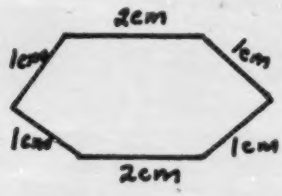
4



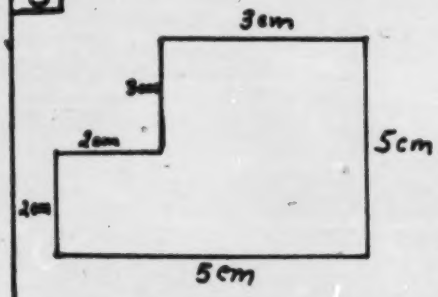
2



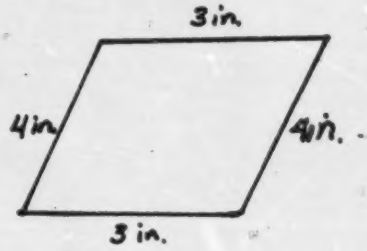
5



3



6



10

Selected Answers:

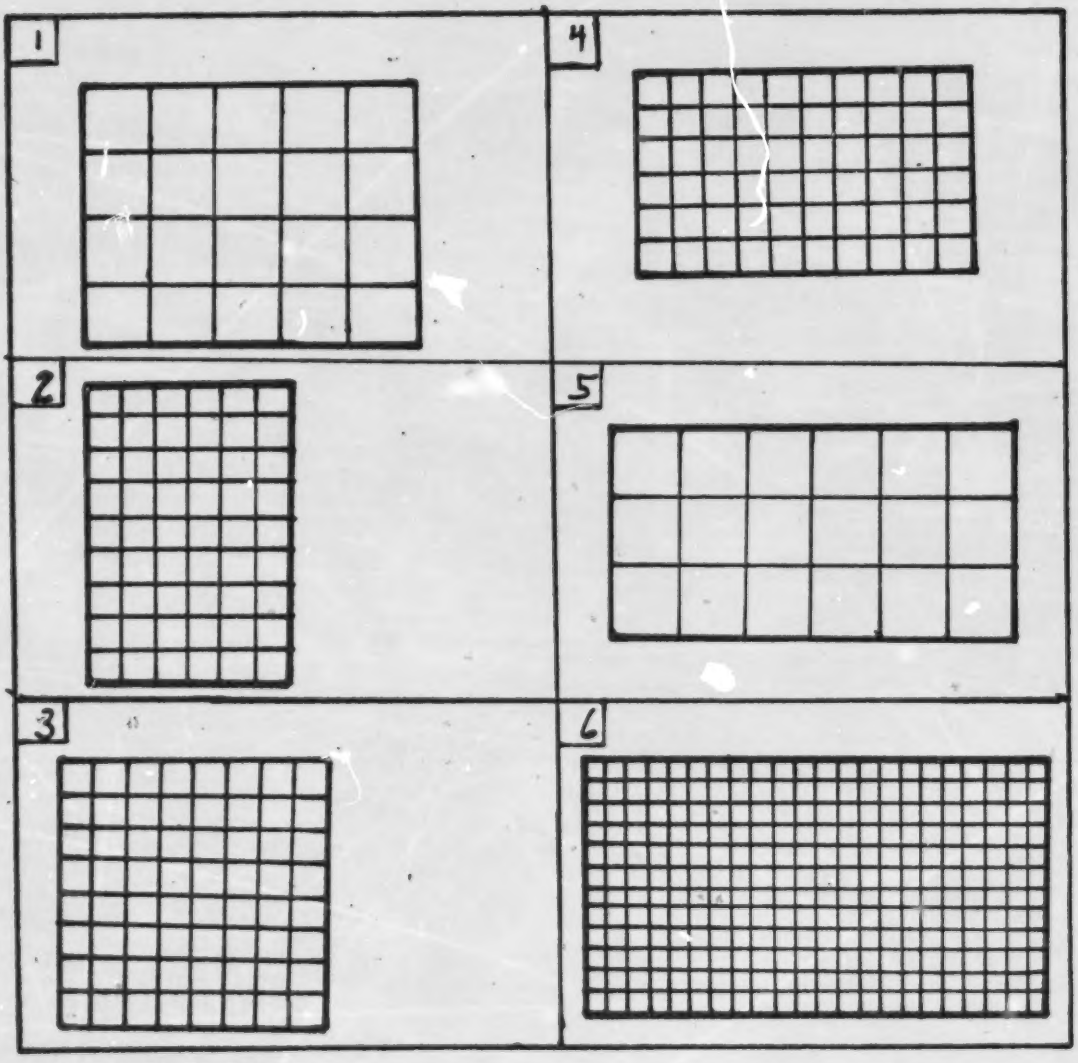
7. 10. 04. 02

NAME _____ CLASS _____ DATE _____

AREA OF POLYGONS BY COUNTING SQUARE UNITS

Directions:

How many square units of area is each figure?



10

Selected Answers:

7. 10. 04. 04

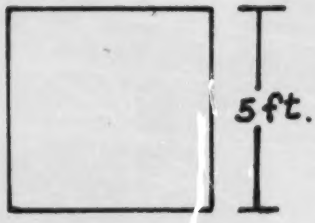
NAME CLASS DATE

PERIMETER OF SQUARES AND RECTANGLES BY ADDING EQUAL SIDES
AREA OF SQUARES AND RECTANGLES BY MULTIPLYING LENGTH AND WIDTH

Directions:

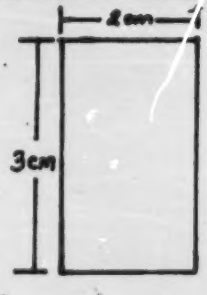
Find the perimeter and area.

1



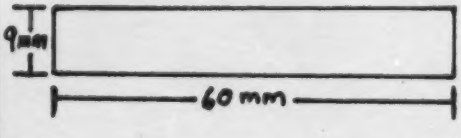
P = ___ A = ___

2



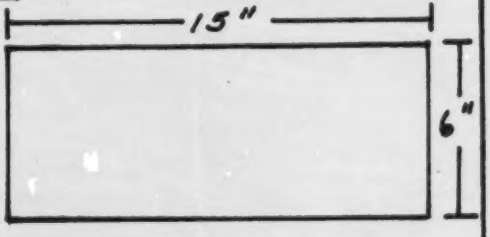
P = ___ A = ___

3



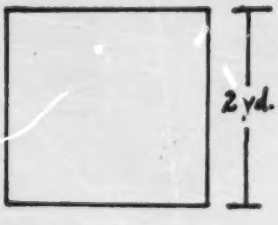
P = ___ A = ___

4



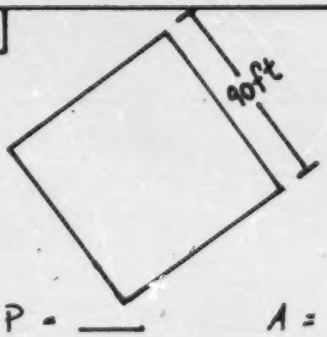
P = ___ A = ___

5



P = ___ A = ___

6



P = ___ A = ___

10

Selected Answers:

7 . 10 . 04 . 05

. . .

NAME CLASS DATE

WORD PROBLEMS IN PERIMETER AND AREA

Directions:

Solve each word problem.

1. Howard's room is a 15 ft. by 12 ft rectangle. How many tiles one square foot each would he need for the floor of his room?

2. Mr. Brown's property needs a new fence. The property is 100 ft. by 80 ft. How many feet of fence must he purchase?

3. If 1 gallon of paint covers 400 square feet, and one quart covers 100 square feet. What should Susan buy to paint a square wall 12 feet long? Why?

4. Mr. Handyman is putting ceiling molding around his ceiling which is 18 ft by 20 ft. How much molding will he need?

5. How much carpet will Dolores buy for her room if it is rectangular and 4 yds by 6 yds?

6. How much wood is needed to put a frame around a painting which is 18 inches by 24 inches?

10

Selected Answers:

7.10.05

COMPUTATION WITH ENGLISH MEASUREMENTS

(standard, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.05.01	compute the sum of different units of length, time, weight or liquid volume;
7.10.05.02	compute the difference of different units of length, time, weight or liquid volume;
7.10.05.03	compute the product of a measurement given in linear units, time units, weight units or liquid volume units and a whole number;
7.10.05.04	compute the quotient of a measurement given in linear units, time units, weight units or liquid volume units and a whole number;
7.10.05.05	solve verbal problems involving computation with various measurements.

10

7 . 10 . 05 . 01

7. 10 .05 .02

NAME _____ CLASS _____ DATE _____

ADD LENGTH, TIME, WEIGHT AND VOLUME
SUBTRACT LENGTH, TIME, WEIGHT, AND VOLUME

Directions:

Compute.

1 4 gal., 2 qts + 3 gal., 1 qt.	2 10 gal., 3 qts. − 6 gal., 2 qts.	3 5 ft., 7 in. + 2 ft., 6 in.
4 4 lbs., 10 oz. − 2 lbs., 5 oz.	5 5 weeks., 4 days + 3 weeks., 6 days	6 6 qts., 1 pt. − 3 qts., 1 pt.
7 5 ft., 9 in − 2 ft, 11 in	8 8 lbs., 10 oz. + 2 lbs., 8 oz.	9 7 cups., 6 oz. + 2 cups., 4 oz.

10

Selected Answers:

7 . 10 . 05 . 03

7 . 10 . 05 . 04

NAME _____ CLASS _____ DATE _____

MULTIPLY LENGTH, TIME, WEIGHT, VOLUME BY A WHOLE NUMBER
DIVIDE LENGTH, TIME, WEIGHT, VOLUME BY A WHOLE NUMBER

Directions:

Compute.

1 3 ft., 2 in. × 3	2 4 hrs., 15 min. × 4	3 6 lbs. 10 oz. × 2
4 3 cups., 4 oz. × 4	5 10 ft., 6 in. ÷ 2	6 5 hrs., 15 min. ÷ 3
7 20 lbs., 4 oz. ÷ 6	8 12 wks., 6 days ÷ 5	9 15 gal. ÷ 10

10

Selected Answers:

7 . 10 . 05 . 05

. . .

NAME CLASS DATE

WORD PROBLEMS IN LENGTH, TIME, WEIGHT OR VOLUME

Directions:

Solve each word problem.

1	Mr Plumber attached two pipes end to end. How long will the combination be, if the first pipe is 6 ft, 8 in long and the second pipe 9ft, 4 in long?
2	Carl weighs 80 lbs., 10 ozs. Fat Albert weighs 122 lbs. 12 ozs. How much heavier is Fat Albert?
3	What is the length of each piece of wood, when you cut a 7ft piece in half?
4	Betsy Ross needs 3 yds., 2 ft of cloth to make one flag. How much cloth will she need to make 5 flags?
5	Mr. Rich worked 2 hrs., 15 min. overtime each day for two weeks (not including weekends). How much time in total did he work overtime?
6	An ISS Airways plane crashed in the desert with five survivors. Capt. Wayne Trigg must ration the 8 gal., 3 qts. of water to last 2 weeks. How many cups of water should each survivor drink each day?

C 10

Selected Answers:

7.10.06

METRIC CONVERSION AND COMPUTATION

(standard, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.06.01	express a given metric unit of measure in terms of another metric unit of the same type;
7.10.06.02	express a given metric measure in terms of another metric measure of the same type;
7.10.06.03	express a "mixed" metric measure in decimal notation;
7.10.06.04	compute the sum of metric measures of the same type given in decimal notation;
7.10.06.05	compute the difference of metric measures of the same type given in decimal notation;
7.10.06.06	compute the product of a whole number and a metric measure given in decimal notation;
7.10.06.07	compute the quotient of a metric measure given in decimal notation and a whole number.

10

7.10.06.01 . | 7 . 10 . 06 . 02 | 7 . 10 . 06 . 03

NAME _____ CLASS _____ DATE _____

CONVERT FROM ONE METRIC UNIT TO ANOTHER
CONVERT FROM ONE METRIC MEASURE TO ANOTHER
CONVERT MIXED METRIC MEASURES TO DECIMAL NOTATION

Directions:

Fill in the frame with the equivalent measure.

1 $1\ cm = \square\ mm$	2 $1dkg = \square\ dg$	3 $1\ cm = \square\ dm.$	4 $1mm = \square\ m$
5 $1hl = \square\ kl$	6 $15ml = \square\ dl$	7 $25Km = \square\ dkm$	8 $120mg. = \square\ g$
9 $3l = \square\ cl$	10 $.01g = \square\ mg$	11 $6\ Km\ 9hm = \square\ Km.$	12 $5cm\ 3\ mm = \square\ cm$
13 $3g\ 5dg\ 8cg = \square\ g$	14 $4kl\ 5hl = \square\ kl$	15 $8m\ 3cm = \square\ m$	16 $2dkg\ 9\ dg = \square\ g$

10

Selected Answers:

7.10.06.04	7 . 10 . 06 . 05
7.10.06.06	7 . 10 . 06 . 07

NAME _____ CLASS _____ DATE _____

ADD, OR SUBTRACT, METRIC MEASURES IN DECIMAL FORM
MULTIPLY OR DIVIDE METRIC MEASURES IN DECIMAL FORM
BY A WHOLE NUMBER

Directions:

Compute.

1 $9.3\,cm + 5.8\,cm =$	2 $5.4\,mm - 3.2\,mm =$	3 $6.2\,m + 8.04\,m + 9.3\,m =$	4 $8.02\,mg - 3.5\,mg =$
5 $3.2\,km + 12\,km + .05\,km + 6.09\,km =$	6 $8.4\,l - 3.7\,l =$	7 $6.8\,cm + 8\,cm + .03\,cm =$	8 $6.3\,kg - 10\,hg =$
9 $4 \times 8.3\,cm =$	10 $8 \times 3.2\,mg =$	11 $10 \times 6.2\,km =$	12 $100 \times .504\,mm =$
13 $9.6\,dkg \div 3 =$	14 $18.4\,mm \div 4 =$	15 $10.5\,l \div 5 =$	16 $5.8\,cm \div 8 =$

10

Selected Answers:

7.10.07

PERIMETER, CIRCUMFERENCE AND AREA BY FORMULA

(standard, 11 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.10.07.01 recognize and use the formula for the perimeter of a rectangle: $P = 2L + 2W$ or $P = 2(L + W)$;

7.10.07.02 recognize and use the formula for the perimeter of a regular polygon: $P = NS$ where N = number of sides and S = length of each side;

7.10.07.03 determine the length of the diameter of a circle given the radius and vice-versa (using $r = \frac{1}{2}d$ and $d = 2r$);

7.10.07.04 recognize and use the formula for the circumference of a circle: $C = 2\pi r$ or $C = \pi d$ where the radius or diameter is given (stress approximate nature of pi);

7.10.07.05 recognize and use the formula for the area of a square region: $A = s^2$;

7.10.07.06 recognize and use the formula for the area of a rectangular region: $A = LW$;

10

7.10.07.07 solve verbal problems involving perimeter, area or circumference.

7. 10. 07. 01

7. 10. 07. 02

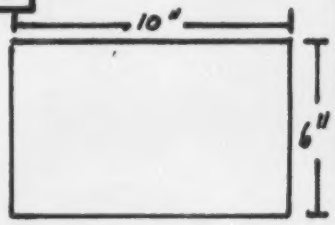
NAME _____ CLASS _____ DATE _____

PERIMETER OF A RECTANGLE BY FORMULA
PERIMETER OF A REGULAR POLYGON BY FORMULA

Directions:

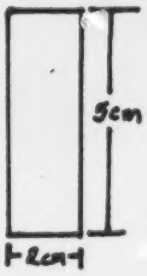
Write the formula for finding the perimeter and compute the perimeter.

1 RECTANGLE



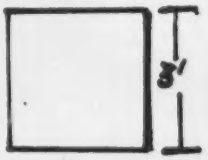
P =

2 RECTANGLE



P =

3 SQUARE

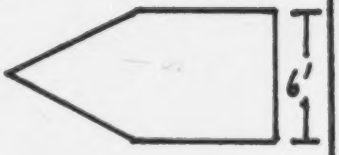


P =

4 REGULAR TRIANGLE

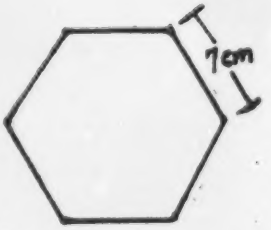
P =

5 REGULAR PENTAGON



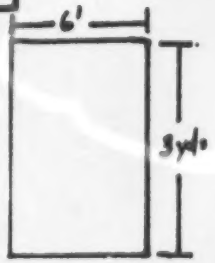
P =

6 REGULAR HEXAGON



P =

7 RECTANGLE

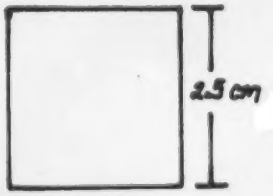


P =

8 regular octagon

P =

9 SQUARE



P =

10

Selected Answers:

7 . 10 . 07 . 03

7 . 10 . 07 . 04

NAME _____ CLASS _____ DATE _____

RADIUS AND DIAMETER BY FORMULA
CIRCUMFERENCE BY FORMULA

Directions:

Write the formula for each and compute.

1 What is the diameter of a circle whose radius is 10 in?	2 What is the radius of a circle whose diameter is 14 cm.?	3 What is the length of diameter $\overline{AB}$?
4 Find the circumference of a circle whose radius is 14 in. (use $\pi \approx \frac{22}{7}$)	5 Find the circumference of the circle below.	6 Find the circumference of the circle.
7 Find the circumference of a circle whose radius is 25 cm.	8 If the circumference of a circle is approx. 66 in, find the diameter. ($\frac{22}{7}$ for π)	9 If the circumference of a circle is approx. 62.8 cm, find the radius. (3.14 for π).

10

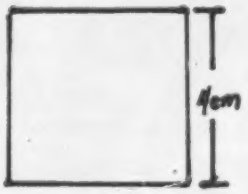
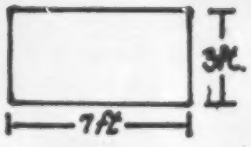
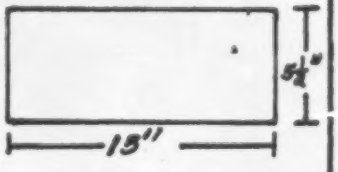
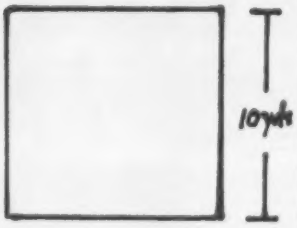
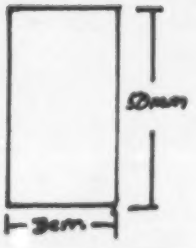
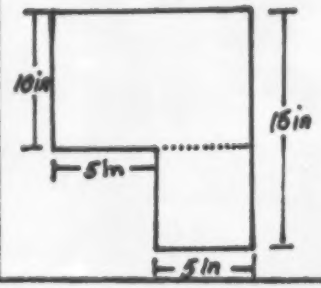
Selected Answers:

NAME _____ CLASS. _____ DATE _____

AREA OF A SQUARE BY FORMULA.
AREA OF A RECTANGLE BY FORMULA

Directions:

Write the formula for the area and find the area.

1 Find the area of a square region whose side is 8 in.	2 Find the area of the following square region. 	3 Find the area of the following square region
4 Find the Area of a rectangular region whose length is 8 in. and width is 6 in.	5 Find the area of the following rect. region. 	6 Find the area of the following rectangular region. 
7 Find the area of the following square region. 	8 Find the area of the following rectangular region. 	9 Find the area of the following region. 

Selected Answers:

7 . 10 . 07 . 07

. . .

NAME CLASS DATE

WORD PROBLEMS IN PERIMETER, CIRCUMFERENCE AND AREA

Directions:

Solve each word problem.

1	Mrs. Dale purchased a carpet for her room which is 3 yards by 5 yards. How many square yards did she buy?
2	Mr. House has a lot 30 ft. by 30 ft. How many square feet of grass sod will he need to cover his lot?
3	Mr House also wishes to put a picket fence around his lot. How many feet of fence will he need?
4	A dump truck has a 21 inch wheel (21 in. diameter) What is the circumference of the wheel?
5	A rectangular floor 15 ft. by 24 ft is covered by 1 square foot tiles. How many tiles are on the floor?
6	Mellisa has a bicycle with a 14 inch wheel. If she peddles the bike so that it turns the wheel 10 revolutions how far will the bike move?

10

TOPIC 12

PROBABILITY, STATISTICS AND GRAPHS

7.12.01	Read and Interpret Simple Graphs	(minimal, 6 days)
7.12.02	Read and Interpret Multiple Graphs	(standard, 5 days)
7.12.03	Read and Interpret Complex Multiple Graphs	(advanced, 5 days,
*7.12.04	Construct A Graph	(advanced, 9 days)

* This Module is not tested on an ISS test.

12

7.12.01

READ AND INTERPRET SIMPLE GRAPHS

(minimal, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.12.01.01	read and interpret a simple bar graph;
7.12.01.02	read and interpret a rectangle graph;
7.12.01.03	read and interpret a simple line graph;
7.12.01.04	read and interpret a circle graph (involving whole numbers).

12

7.12.02

READ AND INTERPRET MULTIPLE GRAPHS

(standard, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.12.02.01	read and interpret a mutiple bar graph (involving a two bar comparison);
7.12.02.02	read and interpret a multiple line graph (involving two lines);
7.12.02.03	read and interpret a circle graph (involving fractional or percent comparisons).

12

7.12.03

READ AND INTERPRET COMPLEX MULTIPLE GRAPHS

(advanced, 5 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.12.03.01	read and interpret a multiple bar graph (involving a three bar comparison);
7.12.03.02	read and interpret a multiple line graph (involving three lines);
7.12.03.03	read and interpret a circle graph (involving fractional or mixed percent computations).

12

7.12.04

CONSTRUCT A GRAPH

(advanced, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

7.12.04.01	construct a bar graph with given data;
7.12.04.02	construct a multiple bar graph with given data;
7.12.04.03	construct a line graph with given data;
7.12.04.04	construct a multiple line graph with given data;
7.12.04.05	construct a rectangle graph with given data;
7.12.04.06	construct a circle graph with given data;

12